Multimodality of learning through anchored instruction

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The project described incorporates the concept of Design in how students construct meaning. Meaning making is becoming more multimodal because language is continually being reshaped by new forms of communication media.

Three college students sit in front of a computer in a campus computer lab. They are watching closely and talking about what they see. On the screen, playing in the video window, is a video of a kindergarten classroom in which effective literacy practices are being integrated throughout the school day. The three notice the enthusiasm of the children as the Leader of the Day is selected. This child then writes the daily morning message composed by the class. As the students continue watching, they see the teacher involving the children in choral reading of several Big Book stories they have already heard. Another literacy activity viewed is the teacher taking the class on a nature walk. After completing the walk, the teacher asks each child to dictate a sentence about something that was seen. When every child has responded, the kindergarten class reads the dictated sentences as a group. The students also watch the teacher engage the kindergarten children in a comprehension activity about a book that has been read aloud to them.

The computer program interface on the screen allows the college students to view multiple sources of information to gain an insight about the targeted grade level. These include scans of student work; a classroom diagram; and expanded ancillary lessons of literacy-related activities viewed in the anchor video; as well as video interviews with the classroom teacher, school administrator, grade-level teachers (one grade below and one grade above the target grade), and other staff members who work in the school environment surrounding and supporting the classroom being viewed. There are also video clips of well-known and respected literacy researchers who comment on literacy concepts such as fluency and comprehension.

These three students are working with one of the multimedia cases developed by the Case Technologies to Enhance Literacy Learning (CTELL) Project. The students, members of a preservice literacy education course, were assigned to work cooperatively while viewing the kindergarten anchor video of one of the CTEL cases to search for examples of the principle of teacher knowledge and insight in orchestrating instruction that can have an influence on student reading achievement. As the students watch, they create bookmarks to highlight different activities that illustrate this principle within the video. These students are able to take advantage of the multimedia components of the CTEL case. They are using their visual literacy skills throughout this
assignment as they watch the anchor video and look at the other visual information available throughout this case. The multimedia aspects of the case also allow them to use their auditory skills as they listen to what the teacher is saying in the video, their verbal communication skills as they discuss which examples they will bookmark as illustrative of the principle, and their computer literacy as they manipulate the computer programming to create the bookmarks. This multimedia case that the students are working with is just one of the cases developed by the CTELL Project showing effective literacy instruction in kindergarten through third-grade classrooms.

As in the vignette I have described, each of the CTELL cases employs a classroom video as the anchored instruction focal point for instruction on effective literacy practices. My purpose here is to examine anchored instruction from a multimodal perspective and how this instructional method relates to the literacy learning of students participating in the CTELL Project, which is currently being studied in literacy education classes at selected universities across the United States. The 11 multimedia cases feature exemplary teachers and illustrate how identified effective literacy instruction is implemented in their classrooms. These cases also give preservice teachers a better sense of the overall classroom atmosphere during literacy instruction.

This article consists of four sections: an overview of anchored instruction, a discussion of the concept of design, an explanation of the CTELL Project, and a look at the multimodal aspects of the materials developed by the CTELL Project and possible implications for learning as a result of using these materials.

**Anchored instruction**

In 1929, Alfred North Whitehead was instrumental in making a distinction between merely acquiring inert knowledge of concepts and developing useful knowledge (Brown, Collins, & Duguid, 1989). Whitehead also made the claim that information in schools is very likely to be presented in such a way as to make it inert. Inert knowledge can be recalled when explicitly asked for but is not spontaneously used in problem solving (Cognition and Technology Group at Vanderbilt, 1990). However, research on learning has challenged the idea of being able to separate what is learned from how it is learned (Brown et al.). Research has emphasized the importance of situating instruction in contexts that are meaningful (Williams, 1992). Two approaches guide teaching in contextualized ways: cognitive apprenticeship and anchored instruction.

Cognitive apprenticeship is a method that emphasizes instruction within a social context. This method draws from the concept of traditional apprenticeship. Brown et al. (1989) proposed the concept of cognitive apprenticeship and defined it as experiencing authentic practices through activity and social interaction. These theorists argued that knowledge is a product of the context, culture, and activity in which it is situated. They felt that many didactic teaching methods assumed there was a separation between the know what and the know how in learning, and that a school’s primary concern seemed to be transferring knowledge as something that was independent of the situation in which it was learned and used. In order to explore the idea that knowledge concepts are situated and developed through activity, they considered conceptual knowledge to be a tool.

Anchored instruction uses a model for the creation of problem contexts. This method enables students to see how and understand under what conditions knowledge is used (Williams, 1992). The concept of anchored instruction was developed through work done at Vanderbilt University in Nashville, Tennessee. Anchored instruction was developed to give teachers and students the opportunity to work cooperatively from a shared experience perspective (McLarty et al., 1989). As illustrated in the vignette in the opening paragraph of this article, the students viewing the multimedia kindergarten case and their instructor will have the
shared experience of seeing how that kindergarten teacher implemented literacy instruction throughout the day for the young children in her class. The students will then be able to use what they have observed through the anchor video, and the various components of the case will interface to contribute to their discussion about a targeted principle selected from the list of effective literacy instruction principles identified by the CTELL Project.

For several years the concept of anchored instruction was experimented with to discover ways to structure learning experiences for students. Helping students to solve problems and become independent thinkers and learners by developing their confidence, skills, and knowledge was the main goal. To achieve it, the use of computer and videodisc technologies was examined. Situating instruction in videodisc-based, problem-solving environments resulted in the educational approach called anchored instruction (Cognition and Technology Group at Vanderbilt, 1990).

The work of several theorists was looked at and became instrumental in the development of the anchored instruction concept. Insights were incorporated from (a) John Dewey about using theme-based learning; (b) Charles Gragg on the use of case-based instruction and the advantages derived from it; and (c) Dewey and Norwood Russell Hanson, who both emphasized the differences between expert and novice knowledge (Cognition and Technology Group at Vanderbilt, 1990).

Anchored instruction’s goal is to overcome the problem of inert knowledge. In environments that allow for continuing exploration, anchored instruction is intended to enable students and teachers to understand not only the problems and opportunities that “experts” encounter in different areas but also how experts use knowledge as a tool. According to the anchored instruction researchers, experts have been immersed in educational situations and are familiar with thinking about them. When a new theory, concept, or principle is introduced that is relevant to their situation, experts are able to acknowledge how these new ideas affect their own thinking. Novices view the introduction of concepts, principles, and theories as additional facts or procedures to be memorized. They have not had the immersion in educational situations to allow them to understand how new additional information may affect their thinking (Cognition and Technology Group at Vanderbilt, 1990).

Anchored instruction is used to enhance students’ development of literacy knowledge, as well as knowledge in general. It creates an environment that is rich in content and shared by students. It generates interest by enabling students to identify problems while examining the content from multiple perspectives through involvement in complex problem spaces called macrocontexts. Being able to explore a problem space over time from multiple perspectives is enabled through the macrocontexts, which act as environments allowing for cooperative learning and instructor intervention (Cognition and Technology Group at Vanderbilt, 1990; Shyu, 1999).

Their design makes anchor videos different from the ones typically used previously in education. Prior to anchors, educational videos were a series of visual examples supplementing a traditional lecture. The videos reinforced the transmission view of instruction where knowledge is transmitted from an expert (the teacher) to a novice (the student). From the anchored-instruction perspective, the goal was to create realistic, yet interesting, contexts to encourage active knowledge construction by students. The macrocontexts of the anchor videos were stories designed for exploration by students and teachers. Using realistic macrocontext stories allowed students to re-create some of the experiential learning advantages available to those participating in apprenticeships.

**Seven guiding design principles**

Development and implementation of an anchored instruction curriculum are guided by seven key design principles: choosing an appropriate
anchor, developing shared expertise around the anchor, expanding the anchor, using knowledge as a tool for problem solving, teaching with the anchor, merging the anchor with literacy experiences, and allowing student exploration (McLarty et al., 1989). A brief summary of each of these guiding principles follows.

1. **Choosing an appropriate anchor.** Using an anchor may not be appropriate in all learning situations, so the curriculum goals that have been selected prove to be important for choosing when to use an anchor. Once the educational goals have been decided upon, it is necessary to identify possible anchors that may work for the age level targeted. Screening possible anchors allows for any that are too general or too narrow to be rejected. Having a clear set of instructional goals is the most important criterion for choosing an anchor. Making the decision to use a video depends on how good a match there is between the educational goals and the possible anchor.

2. **Developing shared expertise around the anchor.** Allowing students multiple opportunities to view segments of an anchor helps create awareness of the complexity of the information presented in it. Discussion based upon the shared context of the video helps students comprehend and organize information. Students gradually increase taking responsibility for their own learning, and this allows the teacher to shift from primarily teacher-led discussion toward student-generated discussion. Developing an expertise about the anchor leads to being able to connect ideas to other subject areas within the curriculum as well as to the students' own experiences.

3. **Expanding the anchor.** One anchor may not meet all the learning objectives that have been set forth. Use of a second video may give students more balanced information and help them to make comparisons or contrasts between the videos. Additional videos may also keep up interest because students can use the knowledge constructed from the anchor video to assist with their comprehension of the additional materials.

4. **Using knowledge as a tool.** The anchor video provides students with a meaningful context from which they acquire new information. But the question is how to use what is learned to solve problems. If the knowledge is inert and students are not using their information, providing opportunities to find relationships between and among concepts becomes necessary. These opportunities give students a way to apply their acquired knowledge and see how it helps with problem solving. Ability to transfer concepts from one context to another is increased through anchored instruction.

5. **Teaching with the anchor.** When teaching with the anchor video, teachers need to make conscious references to the anchor to tie it to the instructional goals. By acquiring a sense of expertise with the anchor, teachers increase students' ability to spontaneously use video-related information toward reaching their learning objectives.

6. **Merging the anchor.** The video anchor should be linked with other more traditional literacy activities. The anchor will provide opportunities for using oral language, reading, writing, and participating in other literacy-related skills. It is critical that the literacy experiences relate strongly and that the students become more active learners.

7. **Allowing student exploration.** Giving students access to, and opportunities to explore, the anchor video helps them develop a sense of expertise. Opportunities for student exploration of the anchor video also open up the possibility for sharing information on individual topics of interest that the students may have developed from what they learned watching the anchor video and then examined further.

Each of these principles is used to guide the development, selection, and construction of anchors. Each is dependent upon the others. As McLarty et al. (1989, p. 12) stated, "Until students develop expertise around the anchor (Principle 3), they cannot use their knowledge for purposeful exploration (Principle 7), or to most effectively link the video anchor to literacy tasks (Principle 6)."
According to these guiding principles, using anchor videos for instruction is a semiotic (meaning-making) activity that provides opportunities for students to use oral language, reading, writing, and other literacy-related skills. Because this activity involves using communication for producing and understanding text, the concept of anchored instruction incorporates the concept of design.

**Design**

Kress and Van Leeuwen (2001) developed the multimodal theory of communication in which the focus is on practices and the use of resources, especially in relation to meaning. They looked at the multimodal resources that are available to make multiple meanings from every sign, at every level, and in any mode within a culture instead of holding to the traditional view that meaning is made once. They looked at multimodal texts as making meaning through multiple expressions.

According to these theorists, the multimodal theory of communication is based on the analysis of specific and common traits of semiotic (meaning-making) modes. It takes into consideration the social, cultural, and historical production of communication and how the different semiotic forms incorporate specific or multiple skills, whether there is a hierarchy in the information used, and if the technologies needed are specialized or multipurpose. In their theory, they discuss four domains of practice in which meanings are made: discourse, design, production, and distribution. Although they consider the domains as strata, they do not see their strata in a hierarchical order, one above another.

In this section, I concentrate on the concept of Design and draw upon not only the theory of Kress and Van Leeuwen, but also the work of the New London Group as the concept of Design relates to literacy learning.

The discussions held by the New London Group (1996) covered the social context of learning and the consequences social changes have on the content and form of literacy pedagogy. This influential group of educators developed a multiliteracies pedagogy that focuses on representational modes in a much broader sense than just language. Within this pedagogic framework, language and meaning-making forms are resources that are continually being remade by the user. Meaning is being made in ways that are becoming more multimodal because the way language is used is continually being reshaped by new forms of communication media. In relation to learning, the New London Group proposed a metalanguage based upon the concept of Design.

For example, in the CTELL Project, through the use of the auditory, visual, and multimedia resource components incorporated within the cases, students are able to continually make and remake the meaning from each case, not only through multiple viewings but also by looking at cases within and across grade levels. Using the Internet as a delivery system, students are able to interact with the case materials differently than with more traditional materials. Therefore the meaning they create may change or evolve as a result of the multiple perspectives, the multimedia materials available, and the interactivity opportunities presented within the digital environment of the Internet as a communication medium.

**The concept of Design**

Design is dual faceted. It has a conceptual and an expression side. Design is a way to understand discourses within a communication situation and involves a deliberate choice of a mode (form) for representation and how that representation will be framed. It acts as a "blueprint" for using available resources of information (Kress & Van Leeuwen, 2001). In the multiliteracies pedagogy, any semiotic (meaning-making) activity that includes the use of language for producing or understanding text was considered part of design. As defined by the New London Group (1996, p. 81), "The concept of Design emphasizes the relationships between received modes of meaning..."
(Available Designs), the transformation of these modes of meaning in their hybrid and intertextual use (Designing), and their subsequent to-be-received status (The Redesigned).” Those three elements together illustrate how constructing meaning is an active, dynamic process.

Teachers are seen as designers with regard to the learning process and the educational environment (New London Group, 2000). Preservice students become designers as they create meaning about effective literacy practices with the CTELL cases through their use of the multimedia materials found within the individual grade-level cases as well as when they look at and begin to discern the different ways literacy practices are incorporated across cases and grade levels. One of the many strengths of the CTELL Project is that it allows the student to develop an understanding of how the effective literacy instruction principles are implemented at the different grade levels.

For example, in one kindergarten lesson the teacher involves the children in a comprehension activity about a new story. This teacher begins by demonstrating the underlying concept of the book to build children’s schema. She then engages the children in predicting what the story might be about based on the cover and title. Next, she takes the children through a picture walk of the book and has them talk about what they think is going on and what might happen next in the story. Finally, she reads the story text to the class and asks comprehension questions during the read-aloud. This lesson shows the implementation of the comprehension principle as very much a whole-group activity in which the children generate most of the learning discussion, whereas a first-grade lesson on comprehension about a new story shows a different implementation of the comprehension principle. When introducing the new story, this teacher reads the title of the story to the group. She engages the children in very little prereading and few predictions about the story. Instead, she immediately reads the story text. She then relies more on a question-and-answer format with individual children about connections she has predetermined to be relevant. Her discussion of the story is much more teacher-directed, and there is very little student-generated discussion or time allowed for the children to talk freely about the story. Although it is the same effective literacy instruction principle, the students are able to see how the implementation of it changes from one grade to the next.

**Available Designs.** These include the structural elements of language and other meaning-making systems as well as a range of socially produced discourses that intertwine and interact dynamically (New London Group, 2000).

Discourses are ways of knowing reality that are developed within social contexts in ways that are appropriate to the interests of the participants in those contexts. An example would be the discourse between students working within a cooperative group to identify and bookmark examples of a principle of effective literacy instruction while viewing an anchor video or other visual elements contained in a CTELL case. Discourse contexts can be broad (e.g., teaching) or narrow (e.g., teaching kindergarten), explicit to a situation (e.g., teaching phonemic awareness skills) or non-specific (e.g., teaching reading readiness skills). They can be realized in a variety of ways, although only in semiotic forms that have developed a means for understanding them. People often have several discourses available to them and will use the one that is most appropriate to the situation in which they find themselves (Kress & Van Leeuwen, 2001).

Students engage in multiple discourses when discussing what they observe in the CTELL cases. They are able to observe and learn from the discourses found within the different grade levels along with the discourses used by the individual teachers as they implement the literacy learning experiences in their classrooms.

For example, when the students watch and listen to the lesson about making the daily morning message in one kindergarten class, they observe the teacher using a more traditional discourse with the children about how to write
the message. The teacher leads the children through the process of physically writing the message on a chart. The preservice students can then engage in a discourse about how this kindergarten teacher helped her children to make the connection between reading and writing by having them create the morning message on the chart paper and then read it chorally.

However, when the students watch the lesson about writing the daily morning message in the second kindergarten class, they observe and hear the teacher using a different discourse with her children about how to create their message on the computer screen. This kindergarten teacher’s discourse about using the computer to electronically create the morning message is very different from the discourse of the first kindergarten teacher who produced a more traditional message text. The discourse the preservice students can then engage in involves making the connection between reading and writing, but in addition it involves new literacies, specifically computer literacy, used to create the digital message on the computer screen that was then printed out for each child in the class.

Order of discourse makes it possible for two different discourses to speak to each other. Discourses shape and in turn are shaped by one another and involve producing, reproducing, and transforming the various types of participants (New London Group, 1996). For example, the discourse for teaching literacy in a primary grade is shaped by and helps to shape the discourse for being an elementary classroom teacher. Gee (1996) contended that every discourse comes with ways of seeing, acting, thinking, and talking, and discourses and conditions within contexts require people to take on identities within a discourse. As I described earlier, the college students observed how the children in the kindergarten class video got excited when the Leader of the Day was selected. They saw how these young children have learned the discourse (what the leader says and does when fulfilling the duties involved in that classroom job) for being the leader of the Day and how, when a child was chosen, she or he took on the identity of the leader who acted as the morning message writer.


**Designing.** The process of Designing involves representation and recontextualization to shape new meaning by working with, and at the same time upon, the new emerging meaning. It is not merely a repetition of meaning but involves transformation, which is making a new use of old information—a recombining of the resources of meaning making (Available Designs). Activities such as reading, writing, listening, and speaking involve the process of designing (New London Group, 2000). For example, as readers decode text (as Available Designs), they draw upon their interests, life experiences, and background knowledge (other Available Designs) as resources for making new connections and constructing new meaning to comprehend what they read. Reading then is the new production (Designing) of new meaning. It transforms the readers’ information (Available Designs) received during a meaning-making event into unique and newly formed meaning (The Redesigned).

**The Redesigned.** This unique, new meaning is the result of the process of recontextualizing (Designing) produced through human agency. Through the process of The Redesigned, people who are making meaning reconstruct and redefine their identities (New London Group, 1996). For example, when expository text is read, information learned as a result of reading is recontextualized and becomes part of the reader’s knowledge base. Then, as the reader decodes new text, that recontextualized, newly acquired knowledge may be accessed to aid in constructing new meaning. The Redesigned (new meaning) in turn creates new available resources

**Design elements**

The New London Group (1996) identified six major areas of Design: linguistic, visual, audio, gestural, spatial, and multimodal. Each of these is a mode (form) of meaning making.

Linguistic design is the one most commonly connected with literacy because its focus is on using resources for representation. This design emphasizes the meaning-making potential of language. According to the New London Group (2000), it includes the elements of (a) delivery; (b) modality; (c) transivity (the choice of words); (d) vocabulary and metaphor; (e) nominalization of process (how actions, qualities, assessments, or logical connections are turned into nouns or states of being); (f) information structures (how information is presented); and (g) logical and global coherence (the logical relations between clauses and the organization properties of a text).

Visual, audio, gestural, spatial, and multimodal designs are becoming increasingly important as forms for meaning making. Visual design includes images, layouts, or screen formats. Audio design involves music and sound effects. Behavior and body language are a part of gestural design. Spatial design incorporates environmental or architectural spaces. Because multimodal design includes patterns of connections between the other modes and connects all the other design forms dynamically, it is considered the most significant.

The CTELL case multimedia format involves the interaction and integration of multiple forms of meaning making. The multimedia nature of the cases incorporates all of the identified Design modes. Because all the various modes for making meaning are included, then multimodal design comes strongly into play in how the modes interact within the context of each case.

**The Case Technologies to Enhance Literacy Learning Project**

The CTELL Project is a five-year study, currently in its fourth year, being conducted in preservice literacy education classes at universities within the United States. Funded by a multimillion-dollar grant from the National Science Foundation, it is being developed and conducted simultaneously by four major universities: University of Georgia (Athens), University of Connecticut (New Haven), Teachers College (Columbia University, New York), and the University of Illinois at Chicago.

CTEELL is an interdisciplinary project designed to improve the literacy instruction within kindergarten through third-grade classrooms and increase children's literacy achievement through the application of knowledge of effective practices during early literacy education. Its focus is on preservice teacher education, and it uses case-based anchored instruction. CTEELL has three objectives: to raise preservice teachers' understanding of effective practices for early literacy education, to increase preservice teachers' use of effective practices when they begin teaching, and to raise young children's reading achievement (Kinzer et al., 2001).

Each of the project universities acts as a hub for selected universities participating in this study that are implementing CTEELL-developed materials. Participating universities have an experimental class and one or more control classes. The experimental class instructors incorporate the CTEELL materials into the teaching of the course according to their teaching style and how they feel the materials will work best with the course. The CTELL Project does not dictate how the developed materials will be used in the teaching of the course (Teale, Lec, Labbo, & Kinzer, 2002). The control class continues to be taught in the format that has been established for that course by the instructor.
The multimedia cases are available to the experimental class instructors via the Internet and on CD-ROM. The cases are based on instructional principles of effective instruction derived from national reports, from reviews of research literature, and from a National Teacher Advisory Board. The principles and their relationship to effective literacy instruction identified include (a) teacher knowledge and insight in orchestrating instruction; (b) the relationship of language, culture, and home background to instruction; (c) foundations for emergent literacy; (d) phonemic awareness instruction; (e) decoding instruction; (f) comprehension instruction; (g) independent reading; (h) fluency instruction; (i) reading and writing integration; (j) technology and early literacy development; (k) early assessment and intervention; and (l) enthusiasm toward reading and writing (Kinzer et al., 2001).

CTELL uses anchored instruction cases to present the pedagogy and concepts of effective literacy instruction in primary classrooms. Principles for the development and the implementation of anchored instruction have been incorporated within the multimedia format of the materials. Each case involves the use of an anchor video plus other multimedia components including student work examples, teaching materials, assessment information, video interviews with the teacher, school personnel, and parents; and commentary by discussants from the literacy field. Through the use of digital cases, instructors and students have the opportunity to share visual images of literacy practices illustrated within the cases, related readings, and a social context that provides the opportunity for exploring effective classroom practices and the decision making related to literacy instruction. Use of the cases allows for the development of a common experience to be used as a springboard for further learning about literacy based on effective practices of instruction (Lea et al., 2002).

Multimodality and implications of the CTELL Project

The CTELL Project involves multiple modes of meaning making. This multifaceted project incorporates the concept of multimodal design as it relates to literacy learning by allowing students to view information in multiple forms and begin to make connections between the elements of Design as they develop their knowledge of effective literacy instruction.

The CTELL cases provide the preservice students with a way to understand the discourse of literacy instruction within the contexts of the kindergarten through third-grade levels. Along with the visual contexts of the anchor cases, students have available to them auditory texts that can be used to supplement their developing knowledge. They can get a sense of the overall learning environment that may have an effect on children's acquisition of skills and other factors that can have an influence on children's literacy learning. Through multimodal sources of information, the students can begin to create a more thorough understanding of what effective literacy instruction is, what is involved in implementing that instruction, and how teachers make decisions concerning instruction for the children. The CTELL cases will help to provide a clearer picture of what happens in actual elementary classrooms.

According to the New London Group (1996), all meaning making is multimodal in a sense. The CTELL Project materials have multimodal effects on learning by providing the opportunity to use multiple Design modes (visual, audio, spatial, gestural, and linguistic) for creating new meaning that in turn works toward increasing the development of knowledge about effective literacy instruction in four ways.

First, students are immersed in examining the digital cases to study literacy instruction. Through immersion, students have the opportunity to develop a sense of expertise about the classrooms in the anchor videos. They are encouraged to identify characteristics of effective literacy practices in actual classrooms. The students are able to monitor their own perceptions of how effective literacy practices interrelate and how teachers make decisions related to literacy instruction. The multiple grade-level cases available
in the CTELL Project allow students to compare literacy practices in different classroom situations and across different grade levels.

Second, the rich case content facilitates comprehension of the case texts at different levels and in different modes. The video-based cases help extend instruction on effective literacy practices beyond the lecture or print-based texts. Cases combine visual and auditory information as well as other meaning-making modes, dynamically. The digital cases have random access that enables students to return to and view specific segments often, and this random access of specific information can have a strong effect on learning. This type of access ability increases the opportunities for students to identify effective literacy practices that are embedded in the cases.

Third, the content of the cases allows students to integrate what they learn. Useful knowledge and information about effective literacy practices are acquired as students examine the cases for different purposes. Understanding how effective literacy practices are implemented in a classroom is expanded as students explore the digital cases within and across different grade levels.

Fourth, viewing the cases creates a shared context for discussion or other teacher-directed activities. Learning is facilitated with videos of actual classroom environments illustrating the variety of literacy instruction practices and the conditions under which classroom teachers base their decisions. By sharing the common contexts of the cases, the students are able to examine similar information from different perspectives, and that in turn facilitates their learning about literacy instruction and their ability to talk about what they observed during discussion.

**A new and different level**

CTELL is an innovative project incorporating the concept of multimodal design. The CTELL Project takes the idea of anchored instruction for students in literacy education courses to a new and different level by offering the cases within a multimedia format and offering the delivery of the instructional materials via the interactive, multimodal technology of the Internet. The multimedia components of the cases act as the resources (Available Designs) for the preservice teachers to use in learning (Designing) about effective literacy instruction practices that will become part of their repertoire of teaching strategies and methodology (The Redesigned) when they enter the classroom as student teachers and inservice teachers.

Using interactive technology such as the Internet as an instructional tool, the CTELL Project invites a connection with the concept of multimodal design. Students are actively involved in the process of designing through the multiple modes of meaning making within the cases. Being involved in the process of designing then has an effect on the discourse of the students in the literacy education course. Kress and Van Leeuwen’s theory of communication (2001) contends that Design adds two things to discourse: contextualization and selection of the modes that will be used. The multimodal aspects of the CTELL cases allow contextualized meaning to be created by the students through multiple semiotic resources, using multiple modes and media.

Research has shown that many students learn best in environments where they are taught how to apply their knowledge, rather than passively view knowledge as separate facts to be memorized (Glaser, Rieth, Kinzer, Colburn, & Peter, 1999). According to Shyu (1999), the use of technology has a significant effect on student learning. It plays a role in improving the effect and impact on teaching and learning and can function as a way to expand and reorganize how students learn. The excitement created by the use of computers as a means for instruction is due to “the recognition that they are our best hope for bridging the gap between the classroom and the real-world conditions within which students are expected to work when outside the classroom” (p. 137).
Using a multimodal design framework reinforces the connections between the different forms of meaning making and requires working on more than one level. By combining multimedia anchored cases, using the interactive and multimodal technology of the Internet, and incorporating the concept of multimodal design, the CTELL Project is moving instruction and student learning toward more multimodal learning. It does this by encouraging multiple levels of understanding of different texts provided and through the development of students’ effective literacy instruction knowledge on the multiple levels available through multiple modes of meaning making.

REFERENCES

THAT FIRST BOOK CAST A SPELL

The actor Daniel Radcliffe, who plays Harry Potter in the movies made from J.K. Rowling’s books, is 15 years old now but was 11 when cast in the first Potter picture. In a telephone interview for a U.S. magazine, columnist James Brady asked Daniel (his friends call him Dan) if he had been a fan of the books at that time. Dan replied as follows:

No. I had never really read much before. But my parents read a review of the first book, and they got it for me. And now I’ve gone on to read other books that have nothing to do with Harry. I owe that to the first book.