

## **Teacher Feedback on Reading Strategy Use in Career and Technical Education**

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### **Abstract**

*Career and Technical Education (CTE) teachers were interviewed after completing a semester-long pilot study which implemented literacy frameworks in their classrooms. Themes included developing teacher confidence, building communities of practice, utilizing authentic text, providing initial professional development, making strategy adjustments, achieving framework adoption, and experiencing student receptiveness. In this manuscript researchers analyze their comments and attempt to define what an effective literacy framework within CTE needs to better equip both pre-service and current CTE teachers to incorporate literacy into their classrooms.*

### **Introduction**

Success in today's world demands complex literacy skills (Alvermann, 2001; Kamil, 2003; Kamil et al. 2008; Moore, Bean, Birdyshaw, & Rycik, 1999; National Governors Association, 2005; Snow & Biancarosa, 2004). The consequences of illiterate CTE graduates are severe, detrimental, and limiting. Individuals lacking in literacy skills fail to fully participate in careers and society (Cappella & Weinstein, 2001; National Association of Secondary School Principals, 2005; National Association of State Boards of Education [NASBE], 2006; Wright, 1998). High school graduates need proficient literacy and reading skills in order to succeed in school, develop lifelong careers, participate in our democracy, and navigate the information age (Carnegie Council on Advancing Adolescent Literacy, 2010; Forget & Bottoms, 2000; Guthrie, Schafer, Wang, & Afflerbach, 1995; Kamil 2003; Meltzer, 2001; Snow, 2002; Vacca, 2002; Wise, 2009). With an emphasis on applied literacy across the curriculum, intentional and explicit instruction using texts as learning tools cannot be relegated solely to language arts classes (Fang & Schleppegrell, 2010). Clearly, focusing "on early reading is necessary, but not sufficient" (NASBE, p. 14; see also Carnegie Council on Advancing Adolescent Literacy, 2010). Thus, reading must occur in *all* disciplines, including CTE courses.

By integrating disciplinary reading strategies into the CTE curriculum, teachers provide all youth with the requisite skills to succeed in school, careers, and daily life. Texts in content areas, including those found in CTE, are complex constructs that utilize both linguistic and visual media to convey meaning to the reader (Carnegie Council on Advancing Adolescent Literacy, 2010). Students may greatly benefit from strategies that assist in finding meaning in such texts. Little research has been conducted regarding literacy and the uses of language and texts with authentic applications within CTE classrooms. It is known that content-area teachers, although becoming more aware of reading strategies, still do not readily adopt these strategies into their

instructional routines (Barry, 2002; Bean, 1997; Jackson & Cunningham, 1994-1995; O'Brien, Stewart, & Moje, 1995; Park & Osborne, 2007).

A teacher's job is "less about teaching books than it is about teaching processes with which to approach and make meaning with the world's texts" (Wilhelm, 2001, p. 29). CTE teachers must be provided with knowledge and processes for integrating disciplinary reading strategies in their classrooms. The goal of reading strategy instruction is to enable students to select appropriate strategies, adapt them to particular texts, and employ them to solve reading problems, all independently (National Reading Panel, 2000; Pressley, Symons, McGoldrick, & Snyder, 1995; Snow, 2002; Wilhelm 2001). Application of reading strategies helps students solve reading problems as well as make decisions about authentic CTE problems. Reading strategies should "be tailored according to how they best fit within specific, local learning contexts" (Bean, 2001, para. 25). Tailoring explicit strategy instruction to CTE involves reading for comprehension and proposing solutions to issues and problems in CTE.

CTE teachers are left to their own devices to implement literacy strategies and programs (Park & Osborne, 2007). While some schools provide literacy coaches, CTE teachers in comprehensive high schools have experienced limited success in garnering the attention of these professionals. The literacy coach's time is focused on core academic areas such as mathematics, science, and social studies (van der Mandele, Park, & Welch, 2008). CTE teachers need a proven framework that is tailored to their CTE classroom, especially since out of all of the disciplines it is the least researched and lacks any clear consensus on a direction regarding literacy.

### **Theoretical Framework**

Researchers (Pressley & Allington, 1999; Snow & Biancarosa, 2003; Taraban, Rynearson, & Kerr, 2000) have proposed reading strategy instruction should be investigated in specific contexts. Comprehension instruction should prepare students to tackle real-world tasks like those found in CTE through application of comprehension strategies. Within CTE, various disciplines read for different purposes depending upon the task, problem, or focus of the lesson. Unfortunately, strategy implementation has rarely been investigated in the CTE environment. Darwin (2006) specifically calls for this kind of research: "Additional situated literacy research should be conducted in order to provide a clearer picture of how people construct meaning from texts while they are engaged in work-related tasks and problem-solving" (p. 17). This research examines strategy use in CTE.

Many strategies are closely tied to academic-type reading, not real-world tasks. CTE, on the other hand, mimics a tradesperson in that

[They] don't usually read texts in a linear, sequential fashion. They use texts in bits and pieces to solve problems, research, and enhance particular stages of the projects in which they are engaged. They typically read not for the sake of gaining general knowledge but to accomplish particular goals and to gain specific information." (Darvin, 2006, p. 12)

This research attempts to locate strategies that are geared to what trades people actually do while reading.

CTE teachers are resistant to teaching what they view as “academics” in their classrooms. Sometimes, this arises from a feeling that CTE teachers “do not possess the knowledge to integrate academic content successfully into their lessons” (Darvin, 2006, p. 13). This may be related to an expressed feeling of poor reading skills, as Darvin (2006) notes when she writes that, despite having multiple difficult texts surrounding them, “. . . the majority claimed that they are not good readers” (p. 12). This research is less academic in presentation, and aims to figure out if the teachers will accept a more applied, less academic approach in a framework, and if they will adapt the strategies to fit their classroom. Risko et al. (2003) noted that “several researchers (Fazio 2000, 2003; Matanzo & Harris, 1999; Stevens, 2002; Theurer, 2002; Wolf et al., 1996a) demonstrated quite specifically that instructional and situated events can be catalysts for changes in beliefs” (p. 263). It is the hope of the researchers that, by providing CTE teachers with strategies that have proven effective in their type of classroom as well as ones that have given positive experiences to other CTE teachers, the teachers will be more open to utilizing strategies.

A CTE teacher’s perspective on implementation of literacy frameworks and strategies within their classrooms is of special interest. When initially coming into the field, they feel they are rarely given preparation on utilizing literacy strategies in their classrooms (Kamil et al., 2008; O’Brien and Stewart, 1990; Snow, 2002). In interviews, some teachers even specifically remind the listener that they do not consider themselves reading teachers as they think they have historically been expected to be and see it as a separate training all together (O’Brien and Stewart, 1990; Shanahan and Shanahan, 2008; Snow and Biancarosa, 2003). Even more telling, this attitude can be found across disciplines, where teachers view literacy instruction as “remedial in nature and should not be part of the ‘normal’ classroom” (Wise, 2009, p. 373). This is despite the general consensus among teacher educators that “all teachers are teachers of literacy development” (Freedman & Carver, 2007, p. 656) and among groups such as the Southern Regional Educational Board (SREB) that “literacy is an essential skill for every student, and literacy is everyone’s job – not just the responsibility of English/language arts teachers” (SREB, 2008, p. 1). Therefore, generally CTE teachers are reluctant to use strategies in their classrooms, whether they see it as someone else’s job or they feel they would not be able to do the literacy strategies justice.

Also, many content-area teachers like those CTE cite time issues when asked to implement a literacy framework in their classroom (Kamil et al., 2008). Often they think they have less classroom time with students than teachers in core academic areas, causing them to be careful what they add to their curriculum (Lenters, 2006; O’Brien and Stewart, 1990). Students coming into the CTE classroom, according to teachers in this study, are looking for something that is not perceived as a core academic area’s strategy, and therefore they show resistance when confronted with reading strategies. Finally, in the largely hands-on environment of the CTE classroom, teachers do not see literacy strategies fitting into that setting. Instead of providing students with additional experience, strategies appear to teachers to turn more to theory rather than the real-world applications that are integral to CTE (Darvin, 2006). All of these perspectives may present major problems to literacy framework implementation in CTE.

## Research Questions

The primary research question was “How do CTE teachers adapt their teaching practice to include explicit, embedded scaffolding of reading and use of literacy strategies?” By answering this question, the community may (1) better prepare pre-service CTE teachers for literacy instruction and (2) better reequip current CTE teachers with instructional approaches supporting literacy and creating a classroom culture that scaffolds text as a learning tool.

## Methods

This manuscript discusses the qualitative data from teacher interviews as part of a larger experimental study (addressed in separate manuscripts) conducted over the spring 2009 academic semester. The 48 teachers participating in the study came from a range of CTE programs across New York State and included both dedicated CTE centers and programs within comprehensive high schools. They were initially self-selected but then randomly assigned to treatment or control groups. They were provided with professional development in those three groups: two treatment groups (the MAX Teaching Approach by Forget, 2004, and a generic CTE Reading framework) and a control. Treatment group teachers implemented a literacy pedagogic framework using materials provided at the professional development. Researchers provided classroom observations, as well as support by email and phone. Teacher interviews were conducted with 30 teachers from the treatment groups to determine reactions to the program.

The MAX Teaching (MAX) approach was developed by Forget (2004) and is a framework of classroom learning activities that uses systematic reading and writing in all classes. MAX is an acronym for Motivation, Acquisition, and eXtension, a tripartite teaching framework based in the Vaughn and Estes (1986) framework involving anticipation, realization, and contemplation. The framework, as with most frameworks in reading comprehension, involves the application of strategies before, during, and after reading. Further, MAX extends the framework to incorporate two additional components: cooperative learning and a skills acquisition model (Forget & Morgan, 1997; Greenleaf, Schoenbach, Cziko, & Mueller, 2001; Kiewra, 1993). Students first become engaged in learning through the use of setting purposes for reading and activating background knowledge. They acquire knowledge through guided practice, silent reading, and teacher probing for understanding. Then, students extend knowledge through debates, discussions, and other organized activities.

The CTE Reading framework was developed from a literature review of content-area reading strategies in the before-, during-, and after-reading microperiods (Snow, 2002). This particular intervention focused on the before-reading and during-reading microperiods. It drew on strategies from across current literacy research outside of CTE classrooms, and utilized similar approaches to framework development as many standard literacy studies, such as concept-oriented reading instruction (Guthrie, Wifgield, & Perencevich, 2004), though from a more general perspective than such frameworks, which often focused on younger classrooms. The CTE reading framework specifically looked to activate background knowledge, set purpose for reading, encourage comprehension with making invisible thinking visible, and generate student-led knowledge through discussion and group comprehension. Before students read, the strategies embedded in the framework assisted students in setting purposes for reading,

activating relevant background knowledge, generating questions, identifying problems to be solved, and selecting strategies to use while reading. While reading, strategies assisted students in continuing to ask questions, rereading, checking context, monitoring comprehension, organizing information, and checking and modifying predictions. These strategies were helpful tools that the research team thought would work well in a CTE environment.

Teachers in the control group used a business-as-usual approach to teaching. They did not implement reading strategies but continued to teach with their normal teaching approaches. When assigning texts to read, they used a default routine of assigning the reading, asking students to answer questions related to the reading, and discussing the reading in class. This limited their use of reading and literacy practices, while still exposing students to a minimal level of instruction related to reading comprehension and strategy use. The control condition asked that students read the text, answer questions at the end of the chapter or section, and participate in classroom discussion of the text. In essence, teachers in the control condition followed their normal routine of teaching. Both the treatment and control groups monitored how they taught, but the control group did not use any literacy strategies and was specifically informed not to use additional reading strategies. The control group participated in all data-gathering activities just like the treatment groups.

The 30 treatment group teachers who agreed to discuss their involvement were asked a series of questions in one-on-one interviews regarding their experiences with reading and the literacy pedagogic frameworks. For the researchers' purpose in this manuscript, there was no discrimination between either framework. Interview questions were designed to encourage reflection without interviewer interruption. This allowed teachers to discuss topics of importance about their experiences using reading strategies.

Audio recordings from teacher interviews were analyzed by transcribing the conversations and using content analysis to determine themes and general conceptions about reading strategy instruction and use of texts in CTE courses. All transcriptions were reviewed by the researchers and compared to actual audio recordings to ensure accuracy of the transcriptions. The inductive analysis (e.g., Glaser & Strauss, 1967; Miles & Huberman, 1994; Spradley, 1979) included a search for "patterns of meaning in data so that general statements about phenomena under investigation can be made" (Hatch, 2002, p. 161). Inductive analysis proceeded as follows:

1. Read data and identify frames of analysis.
2. Create domains based on semantic relationships discovered within frames of analysis.
3. Identify salient domains and assign them a code.
4. Refine salient domains and keep record of emerging relationships.
5. Decide if domains are supported by data.
6. Complete analysis within domains.
7. Search for themes across domains.
8. Outline relationships within and among domains.
9. Select data excerpts to support the relationships (Hatch, 2002, p. 162).

The researchers used an open coding system, checked with inter-rater reliability. This allowed the researchers to identify general comments and concepts that were further analyzed

through axial coding and topical grouping. Emergent themes were checked among the researchers for validation. The audit trail for the interviews consisted of audio recordings, interview transcripts, interview guides and notes, list of interviewees, themes generated from the transcripts, and working conclusions about teachers' perceptions of disciplinary literacy and cognitive strategy instruction in CTE.

## **Evidence and Findings**

The analysis of the qualitative data yielded seven main themes related to creating opportunities for successful strategy use in CTE courses: (a) developing teacher confidence, (b) building communities of practice, (c) utilizing authentic text, (d) providing initial professional development, (e) making strategy adjustments, (f) achieving framework adoption, and (g) experiencing student receptiveness.

### **Teacher Confidence**

Teachers expressed the importance of confidence in strategy use. Building confidence and competence in strategy implementation appeared to be vital to successful literacy framework adoption in CTE classes. As a cosmetology teacher stated, "I'm not an English teacher. ... and to have to take [and teach] what I refer to as an academic [subject], ... reading is English, you know, it's different." Ensuring CTE teachers are comfortable and confident with a set of literacy strategies they view as new and different is a worthy objective for a CTE literacy framework.

Some teachers were satisfied with their implementation of the strategies. Another cosmetology teacher stated, "I was able to deliver it successfully ... a success for myself." Another teacher agreed and planned to continue using the strategies, explaining, "I feel like I can take my knowledge of how to take these strategies and incorporate it into my [class's] readings ...." Because of the students' positive response, one teacher said, "I'm able to do all that literacy analysis and it just worked so well ... [I] actually had students coming in saying, 'Oh, what's the strategy for today?'" illustrating their interest in utilizing the strategies.

However, many teachers lacked confidence in their strategy use. A conservation teacher said, "When I looked at some of the strategies I just [thought] like how am I going to use this? .... So I didn't try it .... I don't jump right in unless I ... have everything...figured out." An outdoor power equipment teacher replied, "I really wasn't sure in some of the ones that I'd done. ... gees [*sic*], I thought 'Am I really... doing this the right way?'" Finally, another teacher expressed her uncertainty, saying, 'Maybe I just didn't plan it right or ... maybe I really wasn't 100% sure what the outcome should've been.'" All of these responses indicated more direction and assistance would have been helpful for these teachers to feel confident during implementation. Interviews with teachers revealed a direct relationship between a teacher's level of confidence in implementing literacy strategies and the amount of implementation in that teacher's classroom.

## **Communities of Practice**

Teachers desired the ability to discuss strategy use with other teachers both inside and outside of their CTE area or with an experienced observer, which defined communities of practice (see also Grossman, Wineburg, & Woolworth, 2001). Communicating with other teachers fostered the development of a community of practice and boosted teacher confidence in strategy use. Increased collaboration, sharing ideas, and/or critiquing their work constructively helped teachers gain confidence in their ability to integrate literacy strategies effectively.

Communication between teachers was a key attribute of effective strategy implementation. Those who had access to peer teachers discussed how helpful that communication was, while those teachers lacking an informal community of practice asked for it consistently. Teachers asked each other about utilization of the strategies. A visual communications teacher related “I might get together with [a fellow teacher] and say, ‘Okay, how did this work for you,’ so that I feel more comfortable with some of the other ones, too.” One of the teachers shared an exchange between himself and a teacher he was mentoring outside of the study:

She came in and observed the ... [strategy] and then she came back after class was over so we could talk about it .... because the idea was to get her to do one of the strategies. And after ... we were done talking and the enthusiasm I had over this got through to her .... she ended up saying ‘God, I wish we had started this much earlier in the year.’ And so it started as pretty positive we’re talking about a pretty hard headed ... type of teacher that was converted and that has ordered the book.

Unfortunately, not all teachers experienced an informal community of practice, and many expressed an interest in “[connecting] with people related to what we teach [so] we could share some ideas.” A culinary arts teacher said, “I think it would have been helpful to come back together .... [to share] what worked, what didn’t, what could we do better, maybe .... some materials.”

Teachers at one school created a community on their own since it was not included in the study. Teachers not only discussed strategies with other teachers, but also requested an experienced observer throughout the year: “If we had had a site visit ... an opportunity to reflect and process how things were going, .... [it] would have helped.” Those that had an experienced observer attending their class and offering constructive criticism and ideas highlighted those instances as important to their success. One cosmetology teacher referenced her experience: “I’m not always so sure ... so it’s maybe having that feedback. It was good having you in here. Um, you know, knowing you were here. You gave me feedback that day.” In short, teachers consistently expressed their desire for a community of peers: partners they could bounce ideas off of, ask questions, and receive support and encouragement.

## **Authentic Text**

Authentic text was defined as teachers utilizing text that CTE students will encounter in their professional careers to enhance relevance, and thus improve students’ willingness to read. Teachers discussed the importance of authentic text to the CTE classroom, as they felt the

students needed to see connections between the text they were interacting with, their current lives, and their future careers.

An auto body teacher stated, “We use a lot of ... technical reference manuals, and they have to be able ... to go find exactly what they need out of that 10 pages.” A conservation teacher said of magazines, “So there’s [sic] tons of articles in here that relate. And I started to go through these and rip them out and put them according to my modules and used them in these lessons and it was just perfect.” Finally, another teacher testified, “... we had ... podcasts, scripts to read ... articles and news casts, so [the strategies] actually worked out really well” for the authentic text used in that classroom.

Teachers determined that authentic text was integral to their classroom. One English integration teacher said, “I think [my CTE] students probably come away seeing how reading and writing can help them improve their profile in a welding or machining class work environment.” Another teacher added, “We don’t have a textbook .... Not that I would really like a textbook.... So but that’s why these resources are real valuable to me. You know that kind of stuff I could supplement what we’re teaching.” For text to be integrated and of real value was critical to successful reading integration; as one teacher said, “everything had to be related to what they were doing, not reading *Of Mice and Men* and hoping they enjoy the book.” Repeatedly, teachers spoke of the importance and effectiveness of using content-specific authentic text as a way to heighten students’ engagement and comprehension of the course content.

## **Initial Professional Development**

The initial professional development was highly valued by teachers. Both specifically as CTE teachers and as teachers in general, they made constructive comments on what would work for them in a professional development environment. They asked for specific elements, such as hands-on time, applied use, and clarity. A lack of clarity during professional development may account for the small degree of full framework adoption discussed later in this manuscript.

Many teachers believed that demonstrating the strategies made them “easier to use because I’d seen them in action” as they did not always feel comfortable with reading strategies. A couple teachers added if they had left with something to get them started, they would be “really ready to go.” A teacher said, “I think just [having] one of [my lesson plans done...] so you have something that first week to be like w-o-w ... like let’s do it.... something to ... get you started in the right mind set I think might have helped me out just a little bit.” Most teachers asked if, during professional development, they could do something like “break out, work on the strategy, come back, and .... [have] groups demonstrate it.”

Teachers made it clear that they needed clarity and practice during professional development. One teacher said, “...we just sat there and listened for I don’t know how ever many hours, but maybe even practicing some of these or having a model would help.” An auto body teacher agreed, saying, “Some of the things weren’t clear to me.” Time after time, teachers mentioned their desire to both observe the strategies in action and attempt to integrate and carry out the strategies during the professional development instead of having them simply explained.

## Strategy Adjustment

Teachers discussed strategy adjustment, or any change made to implementation of the initial strategy. They gave reasons for such changes, often defined in the context of CTE. Occasionally teachers wanted to adjust strategies but did not do so. Many teachers expressed that literacy strategies as “typically” used would not work in their classroom, so they modified them to make them more interactive, more tailored to the texts they were reading, or simply not as daunting to the struggling reader. Some teachers believed that they had to adhere to the written instructions for the strategy, which also may have accounted for the small degree of full framework adoption.

One of the most common adjustments included adding a competition component to the strategy. As one teacher said, “... the kinds of kids we have, they get into a war zone.” So the teachers might “give extra points” when using the strategy *Stump the Teacher*, or combine strategies, as a cosmetology teacher did by taking *KWL charts* and having “incorporated all of that into [*Cube It!*].” An auto body teacher modified the strategies by adding a time limit, saying, “You have one minute to read and one minute to discuss...,” adding, “The timer is the key element.” Teachers adjusted strategies in order, for example, to make them “[relate] really well with the writing process I use” or because “it was hard to get [students] to ask questions” in the way the strategy required.

Multiple teachers noted mixing strategies to best fit their instruction, such as an outdoor power equipment teacher who “incorporated [a strategy] into *Cornell Note Taking* because I think it grouped them together, and they had to compare notes with each other, and it worked pretty well.” Another teacher “took [*Making Predictions*] a step further and actually defined what those words were and how they’re related to what they read, then I thought that worked fairly well.” Teachers adjusted literacy strategies to meet the needs of the CTE field or students.

## Framework Adoption

Framework adoption was defined as the acceptance and understanding, or lack thereof, of the framework. Rote use of strategies, no mention of the framework when discussing why strategies worked, or wanting to cut the theory out of the professional development may all be indications of the lack of acceptance or understanding of the framework itself. For example, a cosmetology teacher expressed her desire to ignore theory in professional development, saying, “...If you had said you are going to implement these strategies we could’ve wiped out everything else we talked about and gone right to that book, and we could’ve brainstormed right there in the initial meeting, . . . . I mean it was good stuff that we heard and . . .it was supportive.” However, a GED teacher with CTE students perceived success with cooperative learning from MAX, saying, “... We would do something together because we don’t usually talk [in this environment].” Another MAX teacher noted, “from a reading aspect, cooperative learning works pretty good.” As cooperative learning is an integral aspect of the MAX approach, the acceptance of that part of the framework into his classroom was an indication of framework adoption. Most of the teachers, however, did not seem to understand or accept the framework as an integral part of strategy use.

Teachers seemed to see the framework as separate from the strategies, and therefore as superfluous in their already busy curriculums. Many seemed unaware of the framework at all. As stated above, it is possible that the frameworks were not as well adopted as expected due to apparent notions of what the framework meant rather than what it was, or the perceived rigidity of the strategies themselves. While many teachers that incorporated features (e.g. cooperative learning) of the literacy framework found them useful, the majority seemed unprepared or unwilling to fully incorporate the framework, opting instead to utilize the strategies on their own.

### **Student Receptiveness**

Favorable student reactions had a positive feedback upon teacher confidence, as well as on overall success of the strategies. It likely also played an indirect role in framework adoption. When the students resisted strategies, teachers were less likely to adopt the framework. Student acceptance of strategy use within the classroom is another cornerstone of an effective literacy framework, and comfort with the strategies is extremely important to that acceptance.

According to teachers, including one teacher quoted specifically here, when students "... were interested, they were excited, they were willing to try something different." Multiple teachers related information such as "kids [getting] excited about looking in a textbook," "[students] sit down and ... start talking about the lesson from the day before [*sic*]," and that these strategies were the "most effective way because then they would talk to each other and the class would start class discussion."

Teachers told stories of improvement, such as one student who, "started reading more novels. He had been reading just newspaper stories and he read two books." Regarding students, teachers felt as though, for example, "once they've seen it done, ... are like, 'Okay, I want to try this again next time, now that I know really what to expect,'" or "were really interested in reading to see what else they could learn from it." According to one teacher, her students "actually said, 'Wow, this made reading really easy!'" On the whole, students were receptive to the integration of literacy strategies. Students' receptivity both surprised teachers and was a source of teacher confidence and reassurance.

### **Discussion and Conclusions**

It is important to note that the themes above may be interrelated. Strategy adjustment could lead to authentic text use and vice versa. The same can be said with teacher confidence, framework adoption, and student familiarity, or teacher confidence and communities of practice. These themes provide the basis for a discussion of literacy strategy use in CTE.

Teacher confidence in strategy use and framework implementation may increase with the presence of clear professional development, continuous communication between an expert coach and the teacher, real-time observations from experienced teachers or coaches, and samples which may cut preparation time for teachers who would be less likely to use said strategies without examples. If the initial professional development gave teachers experience with strategies from the student's point-of-view, an opportunity to ask questions in a "safe" environment, and the chance to work on integrating the framework into their curriculum while an expert was at hand,

teachers felt more confident facing their class with a strategy they had never tried before. The more confidence teachers could build, the more likely teachers may continue to use the strategies and the more willing they may be to take the time to integrate the framework and strategies into their classrooms.

Teachers desired communities of practice. These communities may provide opportunities for experienced feedback such as with a mentor system, for assistance which would increase teacher confidence, and for forums for communicating with others – both inside and outside their area of expertise – that are going through similar problems. With such communities of practice in place, teachers believed they could have gotten more use out of the strategies, as they could have been more confident about what they were doing. One teacher mentioned that it would decrease frustration if they had access to others who were on the same learning curve, as well as mentors who have experienced the frustrations and excitement of literacy integrations; this sentiment was echoed by many teachers in one form or another. It is likely that, as many teachers had mentors at the start of their careers, they would feel more comfortable if such a familiar resource were available to them.

The use of authentic texts is prevalent among these teachers and can be encouraged through both collaboration with other teachers and perhaps a database of resources to foster engagement and motivation among students. Teachers felt that when students who have been struggling readers can see the practicality of the text they are using, they are less frustrated and more likely to be willing to read. Furthermore, if the text has familiar components such as blueprints for a carpentry student, students may be more comfortable using literacy strategies on it, rather than on something as intimidating to the reluctant reader as *Pride and Prejudice* or *Moby Dick*.

Many strategies within frameworks are tailored to the core academic areas, not to CTE; therefore, often these strategies do not work easily in a CTE classroom. Teachers who adjusted their strategies found them easier to use in the active, experiential learning environment of CTE; this lead to better learning and student familiarity. When strategies were adjusted to mitigate both fears or difficulties that many CTE students have with reading as well as the differing lengths of time that CTE teachers have with their students, teachers saw that students were more comfortable with and willing to use the strategies, which lead to increased teacher confidence yet again.

Framework adoption is a key component of a successful literacy program, and may be the most difficult to achieve. According to discussions with teachers, an effective framework needs to be clear, have direction, and demonstrate proof that it works to facilitate teacher confidence. An effective framework for CTE needs to be open to strategy adjustment so that the needs of CTE can be addressed. The lack of framework adoption in this study may be attributed to lack of student receptiveness, unclear objectives from the framework itself, and lack of teacher confidence in how to use the strategies alone, not to mention within the framework. If an effective literacy program were to be implemented in CTE, the framework needs clear outcomes that teachers can grasp, similar to a good curriculum or instructional strategy.

The final – and perhaps the most important – component was student receptiveness. Based on teacher interviews, when students felt comfortable with the strategies, they displayed stronger motivation to read and more ease with using the strategies. With positive responses from students, teacher confidence could build, and strategy effectiveness could increase. The opposite of student receptiveness, student resistance, could create problems for both the program's and the teacher's success when a student refuses even to try due to bad experiences or negative perceptions. Without student cooperation, no program will be effective, no matter how well-researched and thought-out it may be.

Many of the above themes can be seen in cooperative learning. The cooperative learning component of the MAX Teaching framework, specifically, seemed to be very popular within the classrooms studied and also seemed to fit well into the active, experiential approach of many CTE classrooms. Teachers reported more student involvement, improvement, and motivation to read when students were able to work with each other and to think through the readings. As a result, teachers were more confident when they saw students able to do what they needed to do. Strategies were adjusted by both teachers and students cooperatively to fit the needs they saw within a particular text. Finally, the hands-on aspect of the cooperative learning assisted with authentic text use as diagrams and active text carried into students working in groups to understand what needed to be done and how it could be done. Due to how many of these themes cooperative learning affects, it likely is a key component to an effective literacy framework.

### **Recommendations and Implications**

More research needs to be conducted regarding which frameworks perform effectively in the CTE classroom, or even whether a completely new one needs to be developed to accommodate the diversity of texts and purposes for reading found in CTE courses. The needs of CTE teachers are so diverse that one framework which might work for, as an example, a cosmetology class may not work as well for a criminal justice class. It might be wise for researchers to investigate which strategies lend themselves to a general CTE classroom or to individual fields within CTE. In this research, at least, it appears that some strategies work better for a typical piece of text from a non-CTE course versus a highly technical schematic from an outdoor power equipment course.

CTE teachers are looking for utility in a reading framework, something that will fit into their classroom setting seamlessly. Strategy adjustments served to better integrate the framework into instruction. Any rejection of the framework seemed to stem from a perceived lack of usefulness. Consequently, teachers only integrated strategies which they found immediately useful. To be effective, a program must address the need for utility. A quality program would start with the end in mind: teacher confidence, adept student use, and continued use by both teachers and students.

Based on this study, an effective program implementation would include developing communities of practice school- and system-wide to provide support. Then, the program would choose a framework that is clear and provides direction towards utility and ease of use. In initial professional development, teachers would work together in a cooperative learning environment to experience the strategies hands-on, to receive clear explanations, and to design lessons ready

to use in their classrooms. This effective program would include flexibility for strategy adjustment to make standard strategies fit active, applied, and diverse CTE classrooms and use of authentic texts. With these pieces in place, student competence would build as CTE students realize their general discomforts with reading were addressed, and teachers would gain confidence from the support given, experience gained, acceptance demonstrated, and successes seen both in theoretical and laboratory class periods. Both student competence and teacher confidence, in the current study, led to a sincere pledge to continue use, and this seemed to bode well for a program implementation as described above.

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