

The changing face of content area teaching

by Donna Copsey Haydey, Beverly L. Zakaluk, & Stan Straw

ABSTRACT

This study investigated the changes in content area teachers' instruction in the presence of social constructivist theory and the characteristics of and challenges encountered by teachers whose instruction reflected high levels of scaffolding and collaborative learning; both indicators of social constructivist practices. Data collection included a questionnaire and interviews. This study suggests that content area teachers' instruction is evolving from a transmission-lecture approach to include scaffolding and collaborative group practices. Findings from this study reveal the characteristics of teachers who use social constructivist practices and provide suggestions for school administrators on ways to assist teachers as facilitators of learning.

INTRODUCTION

A significant influence on teachers' instructional approaches is their theoretical perspective on learning. Social constructivist theory (Rogoff, Matusov, & White, 1996; Schunk, 2001; Schunk & Zimmerman, 2007) suggests that learning takes place through active participation and interaction between teachers, students and peers with the teacher both: (a) scaffolding or providing support to guarantee successful learning; and (b) arranging collaborative experiences to facilitate the ongoing construction of knowledge. In spite of the research validating instructional practices based on social constructivist beliefs, studies examining teaching practices have indicated that transmission-style, lecture-type teaching and learning predominates in middle and senior years content area classrooms (Alverman & Moore, 1991; Bean, 2000; Pressley, Wharton-McDonald, Hampston, & Echevarria, 1998). Tensions thus exist between present day theoretical beliefs underlying literacy instruction and the reality of the teaching-learning context, which is often governed by the need to maintain control and cover content in a systematic way in order to meet the constraints of time.

Given the development of new curriculum documents in the mid-western Canadian provinces that espouse a social constructivist philosophy (Manitoba Education and Training, 1996) the purpose of this study was first to investigate the instructional approaches currently being implemented by middle and senior years content area teachers, and second, to explore the shared characteristics and challenges encountered by teachers implementing instruction based on social constructivist theory.

THEORETICAL FRAMEWORK

Traditional Transmission Model

Historically, content area instruction has been guided by a positivist view of knowledge based on the belief that knowledge is a fixed quantity that can be acquired by listening to someone more knowledgeable. In this approach, students learn through direct transmission by listening to the teacher. Teaching is viewed as filling a receptacle (Rogoff, *et al.*, 1996). In her “adult-run instructional model”, Rogoff sees the teacher at the center of instruction, dispensing information and assessing mastery, piece by piece, through test performance. The learner is passive, and learning is viewed as a product of teaching. Such a model of teaching and learning may be detrimental to the student, however. Research by Midgley, Eccles, and Feldlaufer (1991), for example, found that as students moved into middle school they often had fewer opportunities for input and decision-making, leading to less positive attitudes and a negative impact on adolescent development, affecting low-achievers most. To counteract the effects of such one-sided learning, Linn (1987) recommends that curricula, particularly in science, focus on depth over breadth, suggesting that instruction should focus more on engaging students in the processing of information. Knowledge is not simply transferable and telling is not the most effective mode of conveyance (von Glaserfeld, 1991).

The Cognitivist Paradigm

Spurred on by information processing specialists and cognitive psychologists, content area reading instruction in the 1970's and 1980's increased the emphasis on the role of cognition and self-regulated learning (Vacca, 2002). For learners to process information more actively it was recognized that they needed to move from lower cognitive processing levels such as memorizing and repeating factual information to higher levels of cognition. Higher levels of thinking require students to be actively involved in their own learning by connecting new information with what they already know, and analyzing, evaluating and applying strategic choices to enhance learning. Before reading, for example, readers are encouraged to preview the text, note headings and subheadings; draw from, integrate and compare background knowledge; and ask questions and predict content. As they read, good readers are expected to monitor their comprehension, construct and revise their understanding, question the author's intent, determine the meaning of unfamiliar words and concepts, and deal with inconsistencies in meaning as well as the author's organizational framework. In addition to responding to the quality and value of the text at both intellectual and emotional levels, other recommended after reading activities, first modeled and demonstrated by the teacher, include constructing visual representations of the text using flowcharts, semantic maps and other frames. These visual representations facilitate summary writing and serve as overviews that can be used later for studying (Duke & Pearson, 2002).

From a cognitive perspective, then, learning is a shared responsibility, with teachers scaffolding and helping students become metacognitively aware, to “know how they know”, and consciously regulate their own learning. The students' role is to develop a range of strategies as tools that can be applied

automatically and appropriately in specific situations. But these before, during, and after reading strategies are best learned by integrating social constructivist beliefs into teacher instruction that values having students work in collaborative groups (Jetton & Alexander, 1998) to share their developing understanding of strategies and when and how to apply them.

Social Constructivist Paradigm

In contrast to the traditional transmission model, which suggests that knowledge can be transmitted from one individual to another, social constructivists theorize that learners construct their own meaning (Brooks & Brooks, 1993; Rosenblatt, 1994/1978; Vacca, 2002). Students link new ideas with what they already know and collaborate to confirm or disconfirm these connections, conferring with others through reading, writing, talking, listening, viewing, and representing. The text and other media is considered a *support* to idea construction. In other words, students learn *with the text* rather than *from the text*, the notion of learning *from* the text being rooted in the cognitivist paradigm in which knowledge flows *from* the text to the mind. It is the interaction between students, and among students and teachers discussing their experiences and making personal connections to the topic being studied that provides students with the opportunity to construct meaning. Whereas a transmission-guided curriculum views knowledge as a predetermined and finite set of ideas, a social constructivist position encourages students to reformulate ideas, develop their own perspectives, and view the world as a complex place where multiple perspectives exist (Hiebert, 1994; Newmann & Wehlage, 1993). Based on Vygotsky's (1978/1986) theory of inter-subjectiveness and the zone of proximal development, teachers, as facilitators of knowledge, help students to construct their own meaning and need to be knowledgeable not only about subject area content, but also about instructional procedures and the theory and research that drives them.

INSTRUCTIONAL RESEARCH

Fosnot (1996) cautions, however, that social constructivism is a theory about learning and not a description of teaching that can be directly and succinctly translated into a set of instructional practices. Many studies have examined the value of implementing cognitive text processing strategies into classroom instruction (Duke & Pearson, 2002). What is interesting is that they reconcile the scaffolding practices implicit in cognitive processing theory with the collaboration element of social constructivism. Among these are summarization techniques (Dole, Duffy, Roehler, & Pearson, 1991), reciprocal teaching (Palinscar & Brown, 1984) and a routine that incorporates reciprocal teaching, CSR, which stands for collaborative strategic reading (Klinger & Vaughn, 1999), question and answer strategies (Raphael & Pearson, 1985), and QtA, or questioning the author (Beck, McKeown, Sandora, & Worthy,

1996). What these techniques have in common are the use of explicit instructions by the teacher. In other words, the teacher demonstrates how the strategy should be used, models the strategy in action, and engages the students in collaborative use of the strategy, while guiding practice toward the gradual release of responsibility. An underlying premise is that ultimately students will begin to apply these strategies independently in order to regulate their own learning. Therefore, it would seem that the teaching of cognitive text processing strategies would best be instructed through a social collaborative learning experience. In defense of teachers, O'Brien, Stewart, and Moje (1993) indicate that teachers do perceive potential value in using theoretically and research-based instructional strategies, but are often unable to see connections to their own content area. Still, as investigators such as Fraser and Tobin (1991) suggest, lack of subject area knowledge on the part of the teacher may lead to overemphasis on facts and completing workbook pages instead of on understanding and adding to students' knowledge base through the application of higher level reading strategies. The classroom learning environment may be less than ideal with a focus on correctly answered factual questions.

The questions for study, therefore, using first, a teacher survey, and second, follow-up interviews with ten teachers identified through the questionnaire as using both high scaffolding and high levels of social collaboration, practices that seem theoretically ideal, were:

- 1) What is the most predominate approach to instruction used currently by middle and senior years teachers in this sample? What are their demographic characteristics? Do they use mainly a transmission or lecture, a scaffolded, or a collaborative approach to instruction? How does the predominant instructional approach relate to the use of before, during and after cognitive text processing strategies?
- 2) What are the shared characteristics between teachers using instructional scaffolding and collaborative learning practices? What are their challenges and concerns?

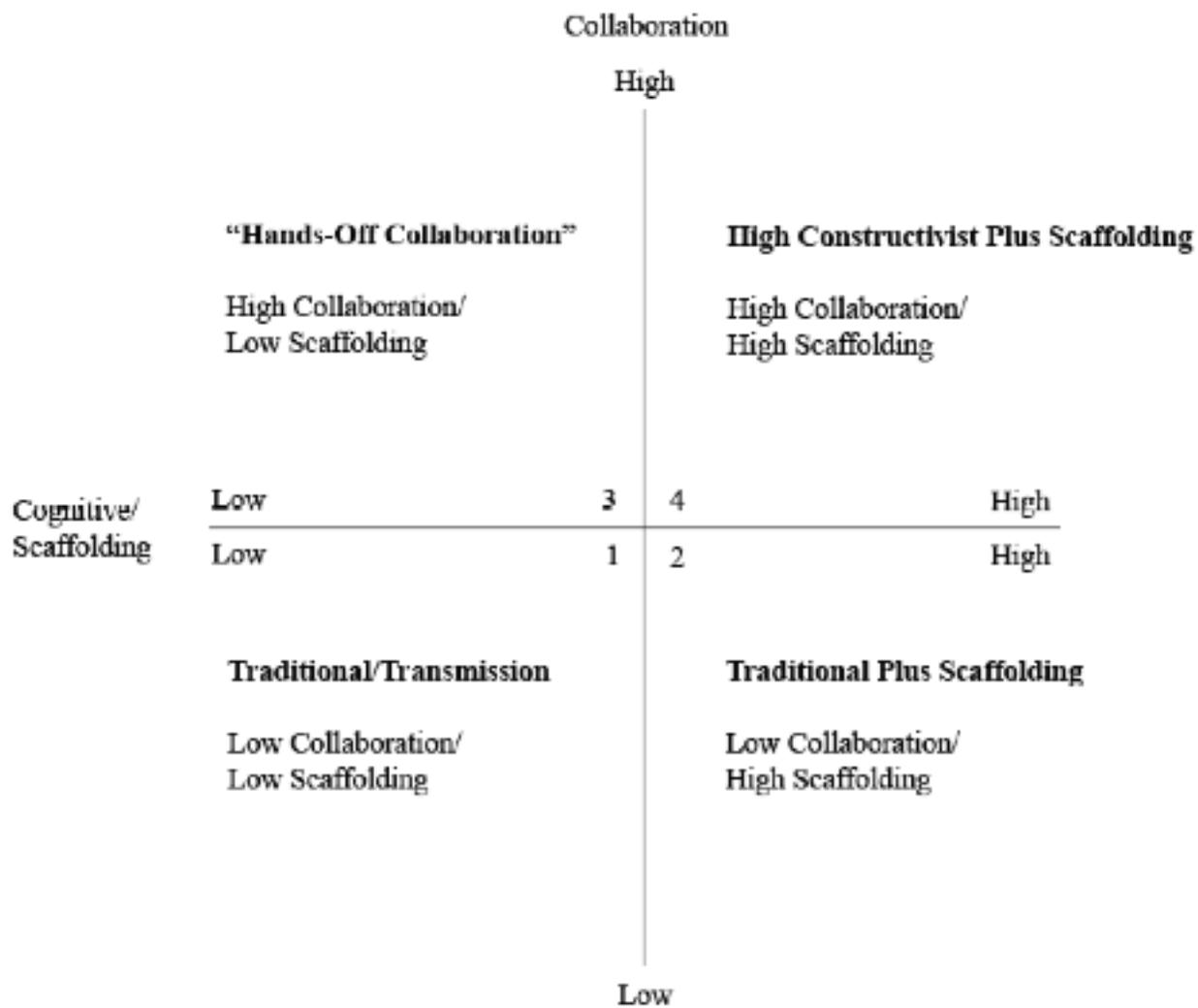
METHODS

The study was exploratory in nature, and conducted in two major phases.

Phase 1 – Survey/Questionnaire

Straw's (2002) model for conceptualizing instructional approaches (Figure 1) that envisions teacher instruction in terms of high-low collaborative practices along the "Y" axis, and high-low scaffolding practices along the "X" axis was used as a framework in developing the survey. The four quadrants of the model represent instructional approaches in terms of high levels of collaboration in which students are engaged in discussion and high levels of scaffolding such as teacher modeling and demonstrating strategic learning techniques to support learning in contrast to more traditional transmission approaches involving teacher lectures. The transmission model is characterized by the quadrant indicating low collaboration and low teacher scaffolding.

Figure 1. Conceptualization of instructional approaches (Straw, 2002).



Teachers were asked to indicate the extent to which they used each of the 30 practices itemized in Part B of the questionnaire (Appendix A) according to the following ratings: never = 1, seldom = 2, sometimes = 3, often = 4, or very often = 5. Questionnaire statements were in no way exhaustive of the elements of these teaching practices, but represented the central characteristics underlying, transmission style, scaffolded, and collaborative approaches to learning.

As indicated in Part C of the questionnaire (Appendix A) which focused on cognitive text processing strategies, there were 37 items, 11 related to pre-reading, 18 related to during reading, and 8 related to after reading. Teachers were asked to respond to their use of these instructional strategies according to the same rating scale indicated above with the addition of “not familiar with = 6”.

Item validity was achieved by piloting the questionnaire with four different sets of professionals involved in literacy: (1) two professors in the field of language and literacy, (2) students enrolled in two post graduate courses in education, one of which was at the doctoral level, (3) two experienced reading specialists, and (4) two middle school classroom teachers. Questionnaire items were reviewed, critiqued and refined resulting in modifications in both format and wording.

Phase 2 – Interviews

In the second phase of the study, one, one-hour long interview was conducted with each of the ten high scaffolding/high collaboration teachers. Six open-ended questions invited participants to reflect on their teaching experiences and questionnaire responses. Prompts accompanied each question to assist the interviewer in probing further. (See Appendix B) The investigator made notes during the interviews which were audio-taped for later transcription and analysis.

DATA ANALYSES AND RESULTS: PHASE 1

Demographics

The questionnaire data was analyzed first, descriptively, using frequency counts to provide a profile of the middle and senior years social studies and science teachers at the participating schools (Appendix A - Part A). Sixty-five middle and senior years teachers of science and social studies spanning 13 inner city and suburban schools in 5 school divisions in a Midwestern Canadian city took part. The participation rate was 40%, with more suburban than inner city schools, and more senior than middle schools represented, with the majority of schools having over 500 students. Content areas represented included geography, history, world issues, general science, biology, chemistry and physics. Only the following demographics were analyzed: highest educational credential, year of graduation, years of teaching experience (early in career: 0 to 7 years; later in career: 8 to 14 years plus), gender and age. The remaining demographics regarding subject areas taught were not included in the analysis since the sample size in each of the categories was small.

Results. Findings indicated that the majority of the 65 teachers (76.9%) held a bachelor's while 13.8% held master's degrees and 3.1% doctorates. The majority of teachers in the sample either graduated or achieved their highest credential during the period from 1994 to 2004, with the most being veteran teachers with fourteen or more years of experience. An analysis of: (1) years of teaching experience (out of the 62 who responded to this item) indicated that 23 teachers were early, and 39 were later in their career; (2) gender (n = 65), 29 were female and 36 male; and (3) age (n = 65), 13 were under 30, 39 fell into the 31 to 49 age group, while 20 were between 50 and 60.

Predominant Instructional Approach

Statistical Analyses. A two-step categorical cluster analysis which provides for the simultaneous creation of cluster models based on classification variables and category searches was conducted to identify the most predominant instructional approach (Straw, 2002) (transmission, scaffolded, collaborative or a combination) of instructional approaches.

Teacher responses were based on a five-point scale. For analysis purposes, questionnaire responses greater than 3.5 were arbitrarily designated as high, and those below 3.5 as low. Teacher responses falling into high and low categories for each of the teaching approaches were: low scaffolding, 20;

high scaffolding, 45; low collaboration, 37; high collaboration, 28; low transmission, 44; and high transmission, 21 as depicted in the accompanying Table 1.

Table 1: Number of Teachers in High/Low Categories for Predominant Teaching Approaches

Predominant Teaching Approach	Low	High
Scaffolding	20	45
Collaboration	37	28
Transmission	44	21

Each variable was then combined with every other variable resulting in six possible combinations: teachers using high scaffolding, low collaboration and low transmission; high scaffolding, low collaboration, and high transmission; low scaffolding, low collaboration and low transmission; high scaffolding, high collaboration, and high transmission; high scaffolding, high collaboration, and low transmission; and low scaffolding, high collaboration, and high transmission (See Table 2).

Table 2: Results: Categorical Cluster Analysis

	<i>Scaffolding</i>	<i>Collaboration</i>	<i>Transmission</i>	<i>% of Participants</i>	<i>Combined % of participant</i>
Cluster 1	High	Low	Low	13.8	35.3
Cluster 2	High	Low	High	21.5	
Cluster 3	Low	Low	Low	26.2	26.2
Cluster 4	High	High	High	10.8	38.5
Cluster 5	High	High	Low	27.7	

Next, Table 2 was examined to determine the clusters of instructional approaches represented by the greatest number of teachers and then the clusters further scrutinized for patterns to identify the most predominant approach. Cluster five, high scaffolding, high collaboration and low transmission, representing 27.7 % of participants, emerged as the most predominant, along with Cluster three—low scaffolding, low collaboration, and low transmission representing 26.2 % of the sample. The least used combination of instructional approaches was Cluster four, representing high scaffolding, high collaboration, and high transmission representing 10.8% of the participants. Based on teacher survey response choices, no combination of low scaffolding, high collaboration, and high transmission occurred. Cluster six was therefore dropped as a category.

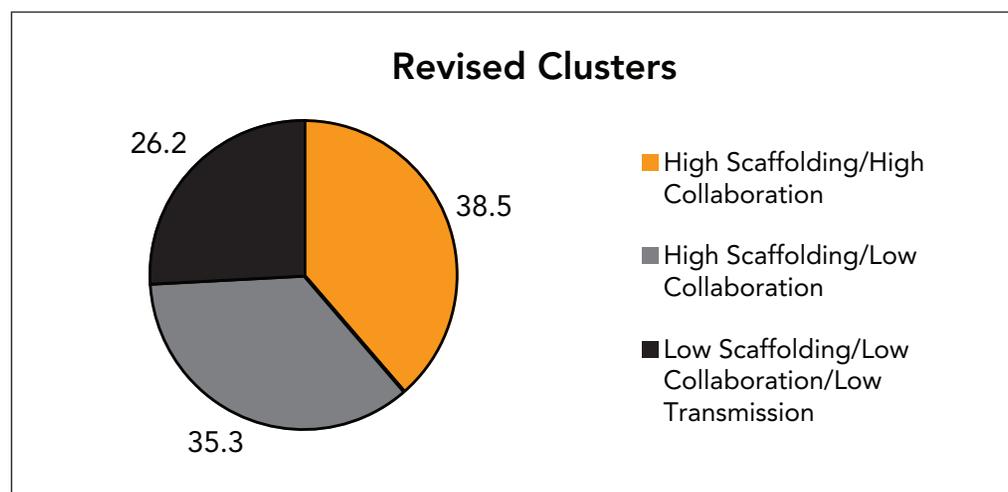
The clusters were further examined for patterns. Combining clusters four and five, in which the use of transmission varied (high/low) and both high scaffolding and high collaboration were present, seemed logical. This combination accounted for 38.5 percent of teacher responses as shown in Figure 2 and Table 3. A second pattern that combined clusters one and two also emerged. This combination represented high scaffolding but low collaboration, while at the same time subsuming elements

of transmission to account for 35.3 percent of teacher responses. Cluster three (low scaffolding, low collaboration, and low transmission) remained, accounting for the responses of 26.2% of the teachers.

Table 3: Revised Clusters

Cluster	Scaffolding	Collaboration	Transmission	% of Participants
Combining 4 and 5	High	High	Both	38.5
Combining 1 and 2	High	Low	Both	35.3
Cluster 5	Low	Low	Low	26.2

Figure 2. Percentage of teachers using scaffolding and collaboration by cluster



Result. Rather than a teacher’s instructional approach being clearly one approach or another, the findings from the percentage of teacher ratings suggest that combinations of scaffolding, collaboration and transmission seem to make up the instructional repertoire of teachers in this study.

Relationship between Predominant Instructional Approach and Demographics

Analysis. A cross-tabulation analysis was carried out to explore the relationships between the predominant teaching approach clusters (high scaffolded-high collaboration-high/low transmission; high scaffolded-low collaboration-high/low transmission; and low scaffolded-low collaboration-low transmission) and teacher demographics with a Pearson chi-square analysis applied to assess the relationships between any of the instructional clusters and any of the demographic variables.

Results. Findings indicated that there were no statistically significant relationships either for educational credential ($\chi^2 (2) = 1.5, p = .472$); year of graduation ($\chi^2 (2) = 1.5, p = .47$); years of teaching experience ($\chi^2 (2) = 2.58, p = .275$); gender ($\chi^2 (2) = .023, p = .988$); and age ($\chi^2 (4) = 2.51, p = .643$).

Cognitive Text Processing Strategies Before, During and After Reading in Relation to Instructional Approaches

Analyses. First, responses to category 6 (“not familiar with”) were recoded to Category 1 “never use” to increase the strength of the analysis and since it was determined that those not familiar with an item will

never use it. The relationship was analyzed by conducting a two-way analysis of variance with repeated measures (employing data from Part C of the survey, Appendix A).

Findings. Findings in which “time” represents the before, during and after text processing strategies, revealed that before reading strategies were used more often than both during and after reading strategies ($p < .001$). There were no statistically significant differences between the use of during and after strategies ($p = .095$) although the significance was in the expected direction with after reading strategies being employed more often than during reading strategies.

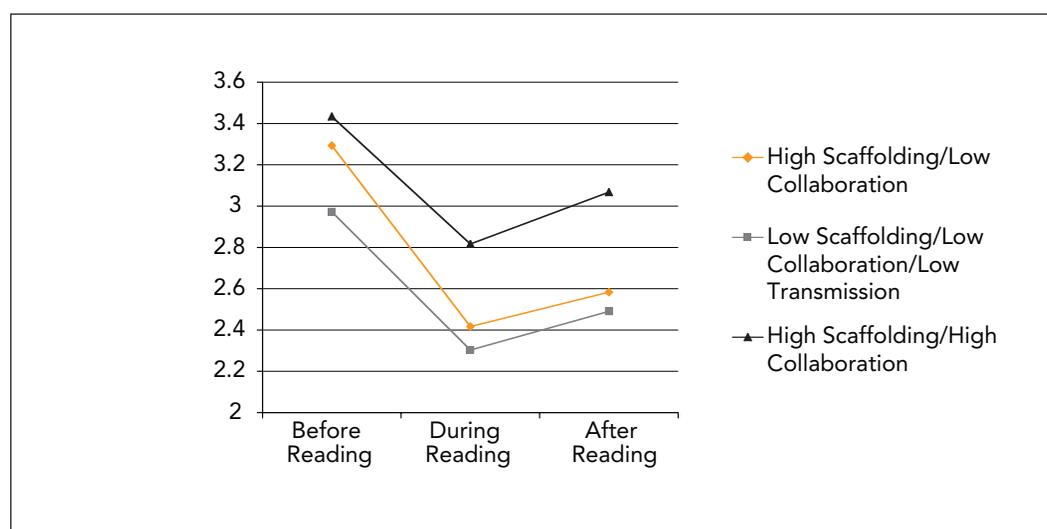
When the use of cognitive text processing strategies in relation to predominant instructional approach using the major instructional approach clusters (high scaffolding-high collaboration, high scaffolding-low collaboration, and low-scaffolding-low collaboration) as the between subjects variable and before, during and after reading strategies as the repeated measures variable, results indicated that there were no statistically significant relationships ($F_{(4,108)} = .812, p = .520$). Bonferroni follow-up tests indicated that there were statistically significant differences between high scaffolding-high collaboration and low scaffolding-low collaboration ($p < .01$), as shown in Table 3 and Figure 2.

Table 4: Anova Table for Relationship Between Cognitive Text-Processing Strategies (Before, During, and After Reading) and Clustered Instructional Approaches

	<i>df</i>	<i>Mean Square</i>	F	<i>p</i>
Instructional Approach Cluster	2	4.004	5.454	.007*
Error	54	.734		
Time (before, during, after)	2	7.280	3.965	.000*
Time X Cluster	4	.174	.812	.520
Error	108	.214		

*denotes significance

Figure 3. Predominant teaching approach in relation to the use of cognitive text processing strategies.



Relationship between Cognitive Text Processing and Demographics

Analysis. The data were examined using a one-way between subjects analysis of variance with each level of cognitive text processing (before, during, and after) as the dependent variable and the demographic categories as the independent variables. No significant relationships were found for highest educational credential ($F = .276, p = .843$ for before reading; $F = .271, p = .846$ for during reading; and $F = .585, p = .627$ for after reading); year of graduation ($F = 1.724, p = .195$ for before reading; $F = .284, p = .596$ for during reading; and $F = .558, p = .447$ for after reading); years of teaching experience ($F = .80, p = .448$ for before reading; $F = .589, p = .624$ for during reading; and $F = .803, p = .497$ for after reading); for age ($F = .606, p = .440$ for before reading; $F = .004, p = .951$ for during reading; and $F = .376, p = .542$ for after reading); and for gender ($F = .489, p = .616$ for before reading; $F = .104, p = .901$ for during reading; and $F = 1.074, p = .348$ for after reading).

DATA ANALYSES AND RESULTS: PHASE 2

Phase 2 – Questionnaire

The interview data were analyzed using a grounded theory approach and constant comparative method (Glaser & Strauss, 1967) in which the investigator simultaneously codes, categorizes, and makes notes while searching for new and recurrent themes. During the interviews themselves, a number of possible themes began to emerge, and these were recorded in the form of an analytic memo in order to identify similar patterns in successive transcripts. Once all interviews were completed analysis involved searching for data responding to the categories from the interview questions (Appendix B). Data that related to the question categories were coded in the margins identifying the category or some aspect of the category and included a brief descriptor. With the reading of each subsequent transcript and reviewing previously analyzed transcripts both recurrent and new patterns, topics, and categories were identified and coded. Analysis of the data was terminated once saturation of the data was reached. At this point themes and categories were repeated with no new insights.

Results. Analysis of the teacher interview data confirmed that while teachers still used lecturing at times, instruction also included social constructivist practices in which teaching and learning were supported by teacher scaffolding and collaborative group work. Following are the themes that were identified by analyzing the interview transcripts: teacher knowledge, beliefs about teaching and learning, instructional practices, the challenge of time in teaching content area subjects. These will be discussed in the next section of this paper.

Teacher Knowledge. All of the teachers expressed being knowledgeable and feeling competent in their subject areas, with most having studied their teaching subject at university. Several stated that their academic background enabled them to access discipline knowledge easily and to identify the major concepts related to the curriculum. These teachers explained how major concepts were the focus of their teaching. One social studies teacher explained that he assessed students' ability to discuss key concepts during individual conferences by asking, "What did you learn?" He stated, that if [students] grasped the big concepts and the meat of something" then the unit had been a success.

All of the teachers discussed ways in which they actively sought to increase and update their knowledge and understanding of their subject area and were continually in search of new ways to teach. Teachers reported that they regularly accessed the worldwide web for this purpose that also helped them connect curricular concepts to current issues. One social studies teacher explained how he prepared for a unit on politics:

So ... for me, it was to go to the various sites and really do the research in advance and know what's out there and to present it to the kids. ... So at home I often go online and before I do a research topic [with the students] I try and attack it from a variety of angles so I do the groundwork before hand.

One biology teacher explained, "You see I have so many contacts, people in the States. I have so many contacts that are Bio teachers, and we exchange labs still. We get online, we phone each other up." Another teacher talked about how important it had been to her teaching to connect with other teachers in the different provinces in which she had taught. She talked in terms of how her own learning had been facilitated by talking to others and sharing materials and ideas.

Interviewed teachers indicated that they pursued their own personal professional needs on an on-going basis. One teacher commented, "The division does offer some things but generally I do most of the things on my own." While another stated, "I would say [my professional development is done] on my own ... more than in the school... the in-servicing in the school ... usually revolves around other things and so yeah, I'm doing it on my own." Sometimes teachers sought to improve competence in an area through some form of organized professional development. For instance, one teacher explained how she attended a conference to become better at supporting struggling high school readers,

I was running into students who really couldn't read and I didn't know anything as a high school English teacher about decoding or any of that a couple of years ago the division offered ... a later literacy training program and I went along with our resource teacher and one learning assistant and that kind of started me on a roll.

Teachers also indicated difficulties with professional development that was determined by the school or division. As a member of the school professional development committee one teacher stated that new initiatives needed to be followed-up to make them a part of regular practice. She explained,

unless ... the whole school ... we are going to work on this and we have PD and then we have a follow-up, then we have a follow-up and a follow-up, it's kind of pointless. ... Everybody needs to buy in and then it has to be a continued ... measured ... kind of a constant effort to be using and implementing and talking about ... Otherwise it gets lost and it's just another in-service.

Beliefs about teaching and learning. The interviewed teachers, those using the highest levels of collaborative and scaffolded practices shared a number of characteristics. First, teachers described making conscious decisions in determining activities that were highly motivating. Interviewed teachers actively sought out activities that would help their students work with the concepts in ways that would be interesting and help them make connections with the ideas being studied. One teacher explained how she made her instructional program one of largely "hands-on" activities. Enthusiastically she said,

You're so involved with the kids and watching them discover, and watching their thinking [played out through their actions]. To me, science is one of the areas where you're really helping a child to think, problem solve. Well, how are you going to do it? Show them the equipment and see what ... how are they going to use this to do ...

Secondly, teachers considered students' learning preferences, offered students choices, and adjusted instruction to meet individual needs. At the beginning of every course, one social studies teacher had his students fill out multiple intelligences and learning inventories. He explained, "So I have an idea of the range of skills that's in my classroom and the different learning styles in my classroom. So recognizing that, I try as much as possible to balance oral with visual". One biology teacher indicated, "Oh yes, every project has some fairly stringent guidelines, but there's a great deal of choice within it". Another teacher described an overview of the activities planned throughout the year,

... in the biology course, we have a lot of activities that appeal to a range of skill levels. We have some projects that the kids do where they can demonstrate their artistic talent. We have projects where they demonstrate their ability to write...

Another teacher recalled a particular situation where, "One group [that] I would say was quite heterogeneous ... chose to present their information in three different ways. So, that was fine, one of them wrote their work and the others did a poster". This teacher felt that choice of learning modality was an important part of learning content information. She reasoned that the outcomes in content area learning are not about the particular way in which learning is achieved but that students acquire the basic concepts and information.

Third, these teachers shared the belief that instruction needed to connect with students in personally meaningful ways through relevant materials and real-world activities and assignments. A history teacher explained it this way, "We need to tap into ways students make connections." She explained how she used project work continuously throughout the year as the core of her social studies program. Projects were viewed as a vehicle that allowed students to process information in a personal way. She explained that "[Project work] tapped into the way students make connections to the content [from] personal knowledge and interests". Project marks formed the basis of student grades for her course and "avoid[ed] memorizing and regurgitating information" characterized by traditional testing that she deemed as ineffective and uninspiring ways to learn. Teacher descriptions and explanations of their lessons, activities, and projects revealed deliberate planning to engage student interest and facilitate active thinking and involvement with the concepts they were teaching.

Finally, teachers made their instruction interesting for themselves as much as for their students. A social studies teacher explained, "I try to do a variety of things and when I notice myself getting into a bit of a rut, I try to change it and mix things up, because nothing's worse than having a boring teacher and unexciting lessons, you know." Another teacher who taught geography noted that she aims to make her instructional program, " ... meaningful to the students. It gets boring to do the same thing all the time."

Instructional practices. While teachers structured their lessons and guided the direction of teaching and learning, they also described using an interactive stance to engage students in learning through such methods as: planned structured hands-on activities, accompanied lectures with activities, used graphic organizers to guide classroom discussion; and modeled and demonstrated note-taking. One teacher reflected on her use of the term “lecture” by stating, “ ... probably lecture is the wrong word because I’m trying to engage them into it too, so it’s probably more interactive.” Another teacher stated that students “don’t relate to lecture”, and then described the various forms of “lecture” she used, each underscored with the intent of having students become more actively engaged in their learning. A science teacher discussed how her approach varied from lesson to lesson. One factor she considered related to whether students needed to be provided with more specific scientific knowledge before taking part in an interactive activity or whether there was an opportunity to use a problem-solving inquiry approach to facilitate learning. This is how she explained her approach,

So, it’s not: first the experiment, these are the notes you need to take on it. Sometimes they do this, sometimes they need to have facts, or I say: “Okay, before we start, here are some facts you need to know, and you’ll need to be looking for.” So when we were doing matter, for instance, I said to them, “All matter has mass and volume.” And then we talked about what mass and volume were, and they took notes on that. I said, “Now, in this unit, you are going to be finding out all sorts of things that relate to these two facts. You need to be going back to these two facts when you’re doing your experiments ... you need to refer back to these two facts.

With reference to learning new concepts, this science teacher explained that hands-on learning was not a matter of simply providing activities. She believed that to engage students in thinking, a teacher needed to prepare students for the introduction of a concept, and provide activities and text that would lead them to thinking about the new concepts. She explained,

And so if they do things that *allow* them to discover the answer ... but they can’t discover it in a vacuum, the teacher’s job is to give them some information to start. And so, you know, I’ll let them read the textbook, or whatever, or give them a handout. And I’ll discuss with them, what is likely to turn up? And then let them see, “What do you think will happen?”

Another interesting finding was that content area teachers were not relying on textbooks to direct their teaching. Rather, teachers preferred to access multiple sources of information such as newspapers, news magazine articles, government publications, “historical” accounts and the Internet to make the content more meaningful by providing contexts with which students could make connections and that reflected real world information and application. One teacher and her more senior colleague did not in fact order the teachers’ manual when they purchased new textbooks for their department. Since these teachers felt knowledgeable and competent in teaching biology, the textbook served as a reference guide to supplement their program. The biology teacher commented, “It’s unusual to find something that goes along with the way you’ve set up your program.” The teachers’ goal was to find a textbook that supported their program rather than one to drive their instruction.

Another teacher shared that her own experience with textbooks had inevitably led to “memorizing and regurgitating” content in order to succeed on tests. To counter “memorizing for the sake of memorizing” she preferred to use a variety of approaches through which students could not only acquire new information but also represent their understanding and thinking about the content in more meaningful ways. This approach to learning she termed “multi-modal”. She preferred accessing Internet sources, newspaper and magazine articles with human interest stories which appealed to adolescents by making learning more relevant and up-to-date. In particular, she felt that these materials served to be a more dynamic way of instructing low-performing learners since, “They could read and apply [the content] immediately” to what was going on in the world.

Teachers also were conscientious about meeting the learning needs of their students using Gardner’s (1999) theory of multiple intelligences and student strengths (whether they learned best through visual, auditory or kinesthetic channels). One chemistry teacher viewed the experiences of researching and hands-on activities as an opportunity to work closely with information, which led students to “reformat” and “mold” the subject matter to a level of personal comprehension. This teacher viewed projects, research, and activities as a way of providing students with more time and direct experience to work with concepts and content which, in turn, facilitated their learning. As opposed to memorization, a traditional approach to learning content, this teacher believed that by interacting with concepts over a period of time, students mediated their own understanding. He referred to the way in which he had his grade nine students become familiar with the periodic table. He designed a project in which the students were to create a children’s flipbook on the periodic table, atoms, and elements. In order to write this book for a young audience, his expectation was that students would have “to [distill the information] right down [as if they were] talking to an elementary school child.” The outcome of this activity was that the students, “... made it kind of funny and silly, and they had fun doing that, and as a result it stuck.”

These teachers also found that lower performing students were often able to demonstrate talents and understanding when given the opportunity to communicate through means other than paper and pencil. One teacher was made particularly aware of the often hidden talents of low-performing students through the project work she assigned in her biology classes. This teacher found that she was often amazed at the understanding these students communicated through means other than paper and pencil tasks. Her experience demonstrated that, “ ... if some of [the students] have artistic skills, but [weak] English or mathematical skills, they can [still] do a wonderful job [on projects].” Referring to her students’ representations of protein synthesis through the medium of cartooning, this teacher stated, “And I got some fabulous stuff in from some of my weaker students.”

Interviewed teachers discussed using both small and large collaborative group learning in a variety of ways as a regular part of their instructional program. One chemistry teacher stated that he had become more aware of student ability levels through using collaborative learning groups. He was struck by

the way learning groups increased the comprehension of chemistry principles, an understanding not captured by paper and pencil tests. He explained that he had discovered, “the results of test scores are not necessarily a reflection of the ability levels” he has observed in class labs.

There was a general shared view among teachers that for short term activities, for instance, brainstorming for background knowledge, groupings formed on the basis of friendship worked well and were efficient. One teacher explained, “Sometimes I just do it because they are sitting beside each other and I don’t want to [take the time to have them] move. On the other hand, when students were working on assignments that required understanding and manipulating of content knowledge or were being graded, teachers created heterogeneous groups in which stronger students could support the learning of lower-performing students. The underlying belief was that the weaker students would benefit from hearing the stronger-performing students talk, discuss and share their knowledge. “... we’ll [biology department] match top student, bottom student and so on ... When you do it that way then if [marks are involved] they can work together and they sort of shed light on things ... It takes a while [to plan groups], ... the grouping’s important cause ... in things like [students are being graded on a lab] where you need that mix of students, you have to think about who you want working with [whom].”

Teachers found that the use of collaborative learning groups had not proven to be as effective with particular groups of students. A science teacher discussed how the classroom dynamics of one of her classes led her to use collaborative groups for particular kinds of work only, and even then she decided to limit group size to pairs. To reduce distractions, groups were located in different rooms. She explained the situation,

I do a lot of small group work some years, not so much this year, just because of the nature of the class. But all [of] the project work, or even ... there’s some assignments, I’ll let them work in groups versus individually. Most of my assignments this year I let them pair up ... and that seemed to work fairly well. And I even moved some of them into my office and across the hall into empty rooms.

Challenge of time in teaching content area subjects. Time becomes more of a concern when teachers move to an activity-based, collaborative learning approach that requires more time than traditional lecture instruction. One teacher explained his experience in transitioning from a school with a semester system with longer blocks of class time to a school with the traditional timetabling of courses starting in September and ending in June, composed of 45 minute class periods five or six times a cycle.

In a ninety-minute class it worked much better. I could go for thirty or forty minutes and then we could have some time to practice, do some problems, maybe some class discussion or have [students] reword or rephrase some points. ... In forty-five minutes it’s really hard to do. It takes me forty-five minutes to get there and then they leave and then they come in the next day, and it may not even be the next day. I may see them on Thursday and then I don’t see them [again until] Tuesday.

A science teacher described how he conceptualized time in terms of investment, and how this determined the activities he selected. He described how he evaluated whether the time required was in proportion to how well students learned the concepts. He related this to having a “clock ticking in his head all the time” and continually evaluating whether an activity paid “good dividends” and was “worth the investment”.

Classroom size was a factor teachers described as a challenge to teaching time. Teachers preferred working with smaller class sizes, considering groups of thirty-two to be too large while class sizes of fifteen to nineteen students were favoured. One science teacher considered his class of thirty-two students to be too large for the science lab, in terms of too many people in the available space, and too many students for him to circulate among while they were working. One geography teacher commented, with “I had a very nice, lovely class of nineteen and a very large class of thirty-two.

Common meeting times for teachers teaching the same subject and grade level were rarely integrated into the timetables of middle and senior years schools. For the most part, teachers reported meeting informally in the hallway or during a free class. One teacher commented,

You know, sometimes it’s just randomly in the hall or one of us is on a prep. We did not have a common prep this year. It’s something we *request*, every department does, but we don’t always get it. And sometimes one of us will have a spare or prep, and check to see if the other teacher is busy. Sometimes half way through a class you might wander out [into the hall] because you know that other person has a prep.

Otherwise, with classes scheduled differently and extra-curricular responsibilities being met before or after school and at noon hour, collaborative conversations were informal and brief. One teacher explained how teachers have attempted to resolve this situation,

... just bumping into a staff member in the hallway, “Hey, what do you think about this?” It gets a great warm reception, but they’ve got a musical to put on and a drama performance, and ah ... kids to pick up after school, and you’ve got teams to coach

CONCLUSIONS AND DISCUSSION

1. The majority of teachers who participated in this study were well educated and experienced. Both genders were well represented with the age of a majority of participants being between 31 and 49. The overall statistical analysis in the search for instructional approach showed that no clear pattern emerged, and washed out such factors as age and gender that one might expect, stereotypically, to be related to the use of a transmission model of instruction. Older teachers used just as eclectic and current philosophical approaches as their younger peers as did both male and female teachers. Further research using a larger sample of teachers is required.
2. Neither a purely transmission nor scaffolded approach to teaching, including the explicit instruction of cognitive text processing strategies, nor a social collaborative approach as represented by interactive work, dominated. It appears that an eclectic mixture of scaffolding

and collaboration with the addition of levels of transmission more accurately reflected the instructional approaches of the teachers in this Midwestern Canadian study. As Case (1996) suggests different theoretical approaches seem to complement one another, each being supplemented with insights from the other traditions. Although the study suggests that it is inappropriate to dichotomize these theoretical perspectives on teaching and learning, Straw's graphic representation may still be useful in helping novice teachers understand current beliefs that underlie instructional practice.

3. Approximately 74% of the teachers in this study were employing various levels of social constructivist practices. This is in contrast to the prevailing view that content area teachers primarily lecture to students using a transmission approach. While this is a positive finding and one that, in particular, addresses the needs of diverse learners more research is needed to determine if this is a trend. Both the statistical analyses and the interview data suggest that teachers are scaffolding learning by instructing students on pre-reading strategies. This too, suggests an evolutionary change from what has previously been reported in the literature (Alverman & Moore, 1991; Bean, 2000; Pressley, Wharton-McDonald, Hampston, & Echevarria, 1998) but more research is also required to discover whether this finding exists more widely.
4. While the interviewed teachers acknowledged the value of division-wide professional development initiatives, they appealed for further, ongoing support and feedback to assist them with long-term implementation rather than "random acts of inservice" that to them were less effective (Stewart, O'Brien, & Saurino, 2003). School divisions should also consider allocating part of the professional development time to teachers in pursuit of their own personal professional needs.
5. The interviewed teachers, those using the highest levels of collaborative and scaffolded practices exhibited: a strong sense of caring about their students as learners, believed in designing and implementing motivating instructional activities, offered students choices and different ways to learn and demonstrate their learning. They adjusted instruction to meet individual needs and shared the belief that instruction needed to connect with students in personally meaningful ways through the use of relevant materials and real-world activities and assignments. Emphasis was placed on thinking over the need to find the correct answer.
6. A revelation occurred while analyzing the interview data in terms of finding that the descriptions teachers used to explain their approach to "lecturing" in fact involved implicit social constructivist practices. While teachers structured their lessons and guided the direction of teaching and learning, they concomitantly assumed an interactive stance through the interjection of activities. These activities allowed teachers to be in control while at the same time permitted them to respond to questions, clarify misconceptions about content, and support student learning. In many ways, teachers in this study were similar to the exemplary teachers cited in Fraser and Tobin's (1991) study in which teachers were both "entertainers" and "captain of their ship" (p. 274).
7. Teachers made their instruction interesting for themselves as much as for their students. It appears that teachers who are competent and secure in their subject area knowledge are more able to focus on student learning and provide instruction that is more student-centred.

8. Another interview finding was that these science and social studies teachers were not using textbooks, preferring instead to access multiple sources of information such as newspapers, news magazine articles, government publications, “historical” accounts and the Internet to make the content more meaningful by providing contexts with which students could make connections to the real world. In their observations of middle and senior years content area classrooms, Pressley and his colleagues (2004) found that teachers spent considerable time planning and organizing their lessons, “being well aware that students could not and would not learn the content from texts” (p. 423).
9. Involving students in projects allowed them to work closely with the content/concepts to construct understanding, individually and with others. At the same time, this allowed teachers to unleash their own creativity in meeting the learning needs of their students by involving them in projects that applied Gardner’s (1999) theory of multiple intelligences and recognized strengths, helping students learn through visual, auditory or kinesthetic channels and through listening, speaking, reading, writing, viewing, and representing. Teachers found that low-achievers were often able to demonstrate talents and understanding when given the opportunity to communicate through means other than paper and pencil. Draper and Siebert (2002) have been encouraged by teachers’ understanding of the broader definitions of literacy and text that extend beyond traditional print material to consider text as “that [which] takes account of all the things people create to convey or negotiate meaning” (p. 3).
10. Interviewed teachers used collaborative groups as a regular part of their instruction, finding that homogeneous collaborative grouping was most effective for short term, similar ability learning situations, while heterogeneous grouping provided struggling learners with higher level thinking and support when grouped with more academic students. Collaborative grouping was not successful with all students. Some students relied on other group members to complete the work, while other students preferred working independently.
11. While teachers did not feel pressured by time constraints, they were always aware of it in their planning. Implementing instruction that began with activating or building background knowledge and then moving to activities to assist in the processing of ideas and build understanding was sometimes difficult to manage. Depending on the school’s scheduling plan, teachers found that the traditional forty-five minute class was too short to follow through on this learning cycle.
12. Based on teacher accounts in this study, a class size of approximately twenty students may be the optimal level for providing scaffolding and collaboration. In addition, if current practices in this Midwestern Canadian province continue, interspersing low-income housing developments throughout the city, legislating for inclusion, and recruiting students from abroad, then teachers will need to continue refining their practices regarding differentiated instruction. The smaller class sizes would help teachers facilitate the range of needs within each class while allowing them to scaffold learning and provide interactive experiences.
13. Common meeting times integrated into the timetables of middle and senior years schools for teachers teaching the same subject and grade level are desired by teachers. Without scheduled times teachers met informally in the hallway or visited when one or the other teacher had a preparation class. Otherwise, with classes scheduled differently and extra-curricular responsibilities being met before or after school and at noon hour, collaborative conversations were informal and brief. In addition, a number of teachers sought the support of their English language arts colleagues regarding literacy strategies that could be integrated into their discipline area.

Teachers with a social constructivist viewpoint towards learning were interested in collaborating with other teachers in their same grade/subject area and with cross-curricular subject integration. This finding is supported by research by Perry, Phillips, & Hutchinson (2006) who reported on the first two years of their four year project that involved in-service teachers in a large diverse suburban Canadian school district mentoring pre-service education students on the value of self-regulated or self-directed learning. Through networking with experienced teachers, the pre-service teachers learned how to incorporate self-regulation into the instruction of classroom students.

PRACTICAL IMPLICATIONS

The following thus seem essential for success in content area instruction:

1. A strong content knowledge base, suggesting that current requirements at the middle and senior years level that support a prerequisite first degree with a teachable subject area as an entrance requirement for teacher education, followed by additional years of courses in teaching and learning be maintained.
2. The statistical analyses showed that teachers used more before than during and after information processing. During reading activities that included outlining, note-taking and the use of study guides were being taught to some extent, however activities that fostered more in depth processing such as reciprocal teaching (Palinscar and Brown, 1984) and “Questioning the Author” (Beck *et al.*, 1996) were not often used. Neither were after reading techniques such as the use of the jigsaw and fishbowl. While some school divisions provided a modest part of their allotted professional development days to allow teachers to pursue personal interests, many did not. More division-wide professional development followed by ongoing support to assist in long term implementation is recommended. Within schools, administrative support is required in scheduling time for teachers to meet with other teachers providing them with the collaborative networking they seek and apply within their classroom instruction.
3. Smaller class sizes could help teachers facilitate the range of needs within each class.
4. While social constructivist practices encourage group work, it is not a panacea and teachers need to be vigilant regarding those times when it is not an effective learning situation.
5. To meet the needs of diverse learning and to maintain currency, teachers should continue to provide access to other media in addition to textbooks, which require high expenditures and quickly become dated. The use of other media also encourages in-depth processing and the sharing of information.

RECOMMENDATIONS FOR FUTURE RESEARCH

Certain limitations constrain the findings of this study. First, findings from this study may have been influenced by the questionnaire itself. The wording of items and their categorization in terms of being representative of a particular instructional approach may have been misleading. Additionally, since participants volunteered to be in this study they may be individuals who were secure in their teaching, precluding the generalization of findings across a larger population. There were more suburban than inner-city schools participating in the study, and more senior high (n=8) than middle school teachers

(n=2), the unequal numbers and small sample sizes in each category making it impossible to make comparisons across levels. Further, the questionnaire and interview data contained the perspectives of teachers only, and lacked observations from actual classrooms.

Further research to confirm the findings of this study could focus on repeating the study with a larger sample and conducting follow-up research with classroom observation to obtain substantiation of teacher reported practices and in-depth descriptors of the classroom context.

..... References

- Alvermann, D. E, & Moore, D.W. (1991). Secondary school reading. In R. Barr, M. L. Kamil, P. B. Mosenthal, P. D. Pearson (Eds.), *Handbook of reading research (Vol. 11, pp. 951-983)*. New York: Longman.
- Bean, T. W. (2000). Reading in the content areas: Social constructivist dimensions. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson & R. Barr (Eds.), *Handbook of reading research, (Vol.111, pp. 629-644)*.
- Beck, I. L., McKeown, M. G. (1997). Sandora, C., & Worthy, J. (1996). Questioning the author: A yearling classroom implementation to engage students with text. *The Elementary School Journal, 96, 385-414*.
- Brooks, J., & Brooks, M. (1993). *In search of understanding: The case for constructivist classrooms*. Alexandria, Virginia, USA: Association for Supervision and Curriculum Development.
- Case, R. (1996). Changing views of knowledge and their impact on educational research and practices. In Olson, D. R. & Torrance, N. *The handbook of education and human development: New models of learning, teaching and schooling*. Cambridge, MA: Blackwell, pp.75-99.
- Dole, J. A., Duffy, G. G., Roehler, L. R., & Pearson, P. D. (1991). Moving from the old to the new: Research on reading comprehension instruction. *Review of Educational Research, 61, 239-264*.
- Draper, R. J., & Siebert, D. (2002). Why content-area literacy messages do not speak to content area teachers. A critical review of the literature. Paper presented at the 51st Annual Meeting of the National Reading Association, Scottsdale, AZ.
- Duke, N. K., & Pearson, P. D. (2002). Effective practices for developing reading comprehension. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction*, (pp. 205-242). Newark, DE: International Reading Association.
- Fosnot, C. T. (1989). *Enquiring teachers, enquiring learners: A constructivist approach for teaching*. New York: Teachers College Press.
- Fraser, B. J., & Tobin, K. (1991). Combining qualitative and quantitative methods in classroom environment research. In B. J. Fraser (Ed.), *Educational environments: Evaluation, antecedents and consequences*. Oxford, England: Pergamon Press.
- Gardner, H. (1999). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Hiebert, E. H. (1994). Becoming literate through authentic tasks: Evidence and adaptations. In R. B. Ruddell, M. R. Ruddell, & H. Singer (Eds.), *Theoretical models and processes of reading* (pp. 391-413). Newark, D.E.: International Reading Association.
- Jetton, T. L. & Alexander, P. A. (1998). *Teacher' views of discussion: Issues of control, time, and ability*. Paper presented at the Annual Meeting of the American Educational Research association. San Diego.
- Klinger, J. K., & Vaughn, S. (1999). Promoting reading comprehension, content learning, and English acquisition through Collaborative Strategic Reading (CSR). *The Reading Teacher, 52, 738-747*.
- Linn, M. (1987). Establishing a research base for science education: Challenges, trends, and recommendations. *Journal of Research in Science Teaching, 24, 191-216*.
- Manitoba Education and Training (1996). Senior English Language Arts: Curriculum Framework of Outcomes and Senior 1 Standards. Winnipeg, Manitoba, p.1-6.
- Midgley, C. Eccles, J. S., & Feldlaufer, H. (1991). Classroom environment and the transition to junior high school. In B. J. Fraser & H. J. Walberg (1991). *Educational environments: Evaluation, antecedents and consequences*. Oxford: Pergamon Press.
- Newmann, F. M., & Wehlage, G. G. (1993). Five standards of authentic instruction. *Educational Leadership 7, 8-12*.
- O'Brien, D. G., Stewart, R. A., & Moje, E. B. (1995). Why content literacy is difficult to infuse into the secondary school: Complexities of curriculum, pedagogy, and school culture. *Reading Research Quarterly, 30, 442-463*.

- Palinscar, A. S. & Brown, A. L. (1984). Reciprocal teaching of comprehension fostering and monitoring activities. *Cognition and Instruction, 1*, 117-175.
- Perry, N. E., Phillips, L., & Hutchinson, L. (2006). Mentoring student teachers to support self-regulated learning. *The Elementary School Journal, 106*, 237-254.
- Pressley, M., Wharton-McDonald, R., Hampston, J. M., & Echevarria, M. (1998). The nature of literacy instruction in ten grade 4 and 5 classrooms in upstate New York. *Scientific Studies of Reading, 2*, 159-191. Urbana, IL: National Council of Teachers of English.
- Raphael, T. E., & Pearson, P. D. (1985). Increasing students' awareness of sources of information for answering questions. *American Educational Research Journal, 22*, 217-236.
- Rogoff, B., Matusov, E., & White, C. (1996). Models of teaching and learning: Participation in a community of learners. In D. R. Olson & N. Torrance. *The handbook of education and human development: New models of learning, teaching and schooling*. Cambridge, MA: Blackwell.
- Rosenblatt, L. M. (1994). *The reader, the text, the poem: The transactional theory of the literary work*. Carbondale: Southern Illinois University Press (Original work published 1978).
- Schunk, D. H. (2001). Social cognitive theory and self-regulated learning. In B. J. Zimmerman & D. H. Schunk (Eds.). *Self-regulated learning and academic achievement. Theoretical perspectives (2nd ed.)*. Mahwah, NJ: Erlbaum.
- Schunk, D. H. & Zimmerman, B. J. (2007). Influencing children's self-efficacy and self-regulation of reading and writing through modeling. *Reading and Writing Quarterly, 23*, 7-25.
- Stewart, R. A., O'Brien, D. G., & Saurino, P. (2003, December). *Discussing the challenges facing adolescent literacy*. Paper presented at the meeting of the National Research Council Annual Conference, Scottsdale, Arizona.
- Straw, S. (2002). *Cooperative learning in writing and response to literature*. Paper presented at the meeting of the National Reading Conference, San Antonio, Texas.
- Vacca, R. T. (2002). Making a difference in adolescents' school lives: Visible and Invisible aspects of content area reading. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction*, (pp. 184-204). Newark, DE: International Reading Association.
- Von Glasfeld, E. (1991). *Radical constructivism in mathematics education*. Dordrecht, Netherlands: Kluwer.
- Vygotsky, L. L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Schibner, & E. Spouberman, Eds. & Trans.), Cambridge MA: Harvard University press. (Original work published in 1934).
- Vygotsky, L. L. S. (1986). *Thought and language* (A. Kozalin, Trans.). Cambridge, MA: MIT Press. (Original work published in 1934)

..... Appendix A

Middle and Senior Years Content Area Teacher Questionnaire**PART A**

Please read carefully and check off the boxes that apply to you.

1. Highest degree obtained.

- Teaching certificate
- Bachelor of Education or Bachelor of _____
- Masters of Education or Masters of _____
- PhD in Education or PhD in _____

2. Year degree was awarded

3. Total number of years of teaching experience.

- 0 - 3 years
- 4 - 7 years
- 8 - 13 years
- 14 + years

4. Gender: Female Male**5. Is your age:**

- under 30
- between 31 and 39
- between 40 and 49
- between 50 and 59
- 60+

If you are a Middle Years Teacher, go to 6-a and omit 6-b. If you are a Senior Years Teacher skip 6-a and go to 6-b.

6-a. Subject area(s) CURRENTLY teaching. Check more than one if applicable.

Middle Years – Grades 5-8

Social Studies

- Geography
- History
- Science
- Both Science and Social Studies
- Other _____

6-b. Subject area(s) CURRENTLY teaching. Check more than one if applicable.

Senior Years - Grades S1 – S4

Science

- Biology
- Physics
- Chemistry

Social Studies

- History
- Geography
- World Issues
- Both Science and Social Studies
- Other _____

7. Total number of years teaching this subject.

(subject area)	(subject area)	(subject area)
<input type="checkbox"/> 0 – 3 years	<input type="checkbox"/> 0 – 3 years	<input type="checkbox"/> 0 – 3 years
<input type="checkbox"/> 4 – 7 years	<input type="checkbox"/> 4 – 7 years	<input type="checkbox"/> 4 – 7 years
<input type="checkbox"/> 8 – 13 years	<input type="checkbox"/> 8 – 13 years	<input type="checkbox"/> 8 – 13 years
<input type="checkbox"/> 14 + years	<input type="checkbox"/> 14 + years	<input type="checkbox"/> 14 + years

8. Location of the school:

- Inner city core
- More suburban (surrounding inner city core)

9. Total number of students in school

- Under 100
- 101 – 200
- 201 – 300
- 301 – 400
- 401 – 500
- Over 500

10. Number of teachers in my subject area other than myself.

(subject area)	(subject area)	(subject area)
<input type="checkbox"/> 0 - 1	<input type="checkbox"/> 0 - 1	<input type="checkbox"/> 0 - 1
<input type="checkbox"/> 2 - 3	<input type="checkbox"/> 2 - 3	<input type="checkbox"/> 2 - 3
<input type="checkbox"/> 4 - 5	<input type="checkbox"/> 4 - 5	<input type="checkbox"/> 4 - 5
<input type="checkbox"/> 6 - 7	<input type="checkbox"/> 6 - 7	<input type="checkbox"/> 6 - 7
<input type="checkbox"/> 8 or more	<input type="checkbox"/> 8 or more	<input type="checkbox"/> 8 or more

PART B

**TEACHING CONCERNS AND INSTRUCTIONAL APPROACHES
I USE TO PROMOTE STUDENT LEARNING**

Circle the number on the rating scale beside each statement that best describes your teaching concerns and instructional approach according to the following:

1	Never
2	Seldom
3	Sometimes
4	Often
5	Very Often

There are no right or wrong answers. Responses will be pooled together, and common themes arising from the responses will be the focus of study. For the final part, please indicate the five instructional strategies you use most often.

Code to analyze predominant teaching approach. (NOTE: This did not appear on the teacher copy of the questionnaire.)

Scaffolded = S Collaborative = C Transmission = T

Located to the left of each item.

In your teaching to what extent do you:

T 1. Present information in a lecture format, using an overhead or power point presentation.	1	2	3	4	5
C 2. Have students work in groups to talk and share their ideas.	1	2	3	4	5
C 3. Use projects or activities that relate to real world application (posters, brochures, oral presentations, newspaper articles).	1	2	3	4	5
T 4. Have students work independently on end-of-chapter or worksheet questions.	1	2	3	4	5
S 5. Use graphic organizers (maps or charts to represent key concepts and supporting ideas).	1	2	3	4	5
T 6. Have students copy notes from the board or overhead.	1	2	3	4	5
C 7. Have students explain or demonstrate their understanding to the rest of the class.	1	2	3	4	5
T 8. Test at the end of each unit or textbook chapter.	1	2	3	4	5
S 9. Prompt students orally during discussion to clarify their understanding.	1	2	3	4	5
C 10. Have students work together collaboratively in small groups.	1	2	3	4	5
S 11. Move around the room to provide assistance as students work .	1	2	3	4	5
S 12. Teach tips for learning or remembering (metacognitive strategies) to help students read and study.	1	2	3	4	5
T 13. Use the textbook as the major focus of study.	1	2	3	4	5
S 14. Acknowledge difficulties or inconsistencies in text.	1	2	3	4	5
C 15. Find out what students already know about a new topic or unit before you begin.	1	2	3	4	5
T 16. Have students work independently when reading and writing.	1	2	3	4	5
S 17. Use a variety of print material (trade books, newspaper articles, pamphlets, etc.)	1	2	3	4	5
C 18. Have students consider divergent points of view.	1	2	3	4	5
S 19. Group students based on ability levels.	1	2	3	4	5
C 20. Have students discuss their knowledge, ideas, or questions.	1	2	3	4	5
S 21. Have students decide on their own topics for research and inquiry.	1	2	3	4	5
C 22. Work directly with small groups of students.	1	2	3	4	5
T 23. Worry about covering curriculum content	1	2	3	4	5

S 24. Provide students with a rubric or scale that will be used to grade their work.	1	2	3	4	5
C 25. Work with other teachers in the school to develop lesson plans or units of study.	1	2	3	4	5
T 26. Prefer that students work quietly.	1	2	3	4	5
T 27. Arrange students' desks to reduce student talk.	1	2	3	4	5
S 28. Give students an overview of the content that they will study.	1	2	3	4	5
C 29. Instruct students in strategies to process text.	1	2	3	4	5
C 30. Assume complete responsibility for curricular planning.	1	2	3	4	5

Now review the 30 instructional strategies and teaching concerns. On the lines below, **list the numbers** of the five statements that indicate the instructional approaches you use **most often** and the concerns you have about teaching. The five strategies or concerns I use/have most often are:

a. _____ b. _____ c. _____ d. _____ e. _____

PART C

Circle the number on the rating scale beside each statement that best describes your use of instructional strategies when using textbooks according to the following:

1	Never
2	Seldom
3	Sometimes
4	Often
5	Very Often
6	Not familiar with

Once again, there are no right or wrong answers. Responses will be pooled together, and common themes arising from the responses will be the focus of study. Note: The inclusion of #6 – Not familiar with.

Prereading

1. Preteach vocabulary.	1	2	3	4	5
2. Build background.	1	2	3	4	5
3. Use analogies to move from the familiar to the unfamiliar.	1	2	3	4	5
4. Use advance organizers.	1	2	3	4	5
5. Use questions to focus reading.	1	2	3	4	5
6. Use predicting.	1	2	3	4	5
7. Use think alouds.	1	2	3	4	5
8. Identify the purpose for reading.	1	2	3	4	5
9. Preview text headings, subheadings, illustrations, charts, graphs, etc.	1	2	3	4	5
10. Use anticipation guides.	1	2	3	4	5
11. Have students themselves identify unfamiliar words	1	2	3	4	5

During reading

12. Encourage use of visual imagery.	1	2	3	4	5
13. Use questions to guide reading.	1	2	3	4	5
14. Teach the use of self-generated questions.	1	2	3	4	5
15. Teach self-monitoring strategies.	1	2	3	4	5
16. Construct semantic or mind maps.	1	2	3	4	5
17. Use semantic feature analysis.	1	2	3	4	5
18. Use KWL (Know-Want to Know-Learned).	1	2	3	4	5
19. Use DRTA (Directed Reading Thinking Activity).	1	2	3	4	5
20. Use Guided Reading.	1	2	3	4	5
21. Use Reciprocal Teaching.	1	2	3	4	5
22. Use Questioning the Author.	1	2	3	4	5
23. Use study guides.	1	2	3	4	5
24. Teach text structure.	1	2	3	4	5
25. Teach summarizing.	1	2	3	4	5
26. Teach sentence combining or sentence reduction.	1	2	3	4	5
27. Teach strategies for clarifying ideas.	1	2	3	4	5
28. Teach outlining.	1	2	3	4	5
29. Teach notetaking.	1	2	3	4	5

After Reading

28. Have students write about their understanding.	1	2	3	4	5
31. Provide feedback to student responses.	1	2	3	4	5
32. Use peer response groups.	1	2	3	4	5
33. Use inquiry groups.	1	2	3	4	5
34. Use writing for recall, extension, or application.	1	2	3	4	5
35. Use compare-contrast frameworks.	1	2	3	4	5
36. Use the jigsaw strategy.	1	2	3	4	5
37. Use the fishbowl technique.	1	2	3	4	5

 Appendix B

Interview Questions

Following are a list of open-ended questions that will be asked to seek participant views of their experiences, or in other words, to tell a story about their teaching in their own words. Questions are open-ended so that participants can speak to their own, personal experiences. Prompts are listed below each question to assist the interviewer in probing further.

- 
- A. Your responses to the questionnaire that you filled in earlier indicate that you are using a number of teaching strategies that meet with current thinking in the field of adolescent literacy. (Interviewer names some of the instructional strategies that the interviewee indicated they used on the questionnaire and asks a number of probing questions.)

Prompts:

Describe the students you teach (university bound, vocational training, business training, job training while in high school, ethnic make-up, diversity).

Which teaching strategies do you find work best? Why?

Which do the students seem to like the most? Why?

- B. Please describe the challenges you have faced and/or are now facing in implementing the strategies you identified in the questionnaire. For instance, (Identify an instructional practice the teacher indicated using.)

Prompts:

Can you tell me more?

Can you be more precise?

Can you give me an example?

- C. Do you meet with other teachers to discuss teaching?

If participant answers “yes”, prompt with:

How do you find the time to meet?

How often do you meet?

Do you meet during common preparation times?

Do you plan units together? How do you go about doing this?

Does the administration set special times for your group to meet and plan together?

D. What about professional development?

Prompts:

How do you keep your teaching current?

Does the school division provide leadership?

Have you attended any workshops this year? Who do you find most supportive in terms of professional development?

Does your language arts consultant or reading clinician have a role to play?

Does someone from Education and Training help you understand the demands of the new curricula? In Language Arts? In your field?

E. How do you describe the workplace environment in which you teach? How do you feel you are supported? How do you deal with this in terms of:

The new curriculum?

Use of a prescribed textbook?

Role of administrator in your instructional decision-making?

Demands of the school division in terms of division-wide testing, timetabling, class size, and class composition

Additional responses will be sought to queries that evolve from participants' responses to the questionnaire.

..... How to cite this article

Copsey Haydey, D., Zakaluk, B. L. & Straw, S.. (2010). The changing face of content area teaching. *Journal of Applied Research on Learning*, 3, Article 3, pp. 1-29.