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Teaching critical reading to deaf college students

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Rochester Institute of Technology
College of Applied Science and Technology
Center for Multidisciplinary Studies
Cross-Disciplinary Professional Studies Program

Capstone Report

Teaching Critical Reading to Deaf College Students

August 1, 2003

Maureen Barry
Table of Contents

Acknowledgements

General Problem 1

Literature Review 2 - 8
- Historical Perspective Related to critical reading and the deaf learner

Capstone Report 9 – 31

Annotated Bibliography 32 – 40

Appendix
- Packet 1 - Critical Reading
- Packet 2 - Annotating and Textmarking
- Packet 3 - Inference Information
- Packet 4 - Summary I
- Packet 5 - Summary II

Problem

It is a well known fact that deaf college students often enter college with weak reading skills. Current data indicate that, on average, 18 year old deaf students leave high school having reached only a 4th-6th grade level in reading skills and that "more than 30% of deaf students leave their site of secondary education functionally illiterate" (Marschark, Lang & Albertini, 2002, p 157). One of the areas that is especially weak is critical reading. So far, in research and in practice, very little has been written on the subject of critical reading and deaf college students to assist teachers with developing hands on materials to try when teaching such a relevant concept. Most research
focuses on learning to read as opposed to reading to learn- thus the problem. This project hopes to provide some materials to help deaf college students improve their critical reading skill as well as information to help those teaching critical reading as a pedagogical process to enable the students to be more independent thinkers. It also will include some ways in which parents and other teachers of the deaf can start this critical reading process at an early age. The earlier deaf children can start to read critically, the sooner they will be able to transfer that skill to higher levels of thinking.
**Literature review**

Critical reading is the ability to read with analysis and judgment (Epstein, I. D. & Nieratka, E. B. 1985, p.133) not read literally. According to Dr. Frances Triggs, a noted reading specialist," It requires a contribution by both the author and the reader and an interplay which results in a new understanding" (1985, p. 133). Critical reading requires the ability to comprehend what the author is saying by identifying the facts in order to evaluate the author’s purpose, accuracy and implications (1985, p.133). From the author’s implications, the reader examines the inferences made by the author through tone, choice of words and style. Finally, critical reading involves reacting to the author’s use of devices to influence one's own thinking (1985, p.133). Reading critically means interacting with the text, questioning the text’s (author’s) assumptions to formulate and reformulate one’s judgments about the text (Kirszner & Mandell, 2002, p.6). This is what is required of college students who have developed the metacognitive skills necessary for critical reading.

Metacognition requires the active and constructive involvement of the reader. If good readers make intelligent guesses then in class they would ask intelligent questions. According to M. Driscoll (1994), the author of Psychology of Learning for Instruction, "metacognition refers to one’s awareness of thinking and the self-regulatory behavior that accompanies this awareness". The metacognitive strategy is the knowledge and control an individual has over his own thinking and learning (Strassman, 1999). It develops from the internal representation which happens when one reads and thoughts connect with words (Hanfmann & Vakar, 1962, p. 1962).
"inner speech" depends upon the person’s ability to master the social means of thought, that is, language. The "inner speech" then develops logic internally asking the "who, what, where, when, and why" while reading to exhibit the anticipatory level of metacognition. Once this level has been mastered, the second level of metacognition develops, the comprehension monitoring level which enables the reader to move on to the processes involved in critical reading. Comprehension monitoring requires the reader to make generalizations, translations into one’s own words, implications, applications, analysis and evaluation of the author’s text. This is how critical reading develops. Most teachers know the strategies to teach critical reading; however, understanding how to use these strategies to match the deaf students’ pace is problematic.

Historically, instructors of deaf students nationwide report their students inability to read with sufficient comprehension. It has been reported that "more than 30% of deaf students leave their site of secondary education functionally illiterate (Marschark, Lang & Albertini, 2002). Teachers of the deaf complain about having to re-explain in sign language basic concepts from the text, making the students totally dependent on their explanation in order to learn. Many teachers have devised elaborate study guides to assist in leading students through the text step by step. Some teachers have unfortunately given up, and therefore no longer require standard textbooks. This process of summarizing information from full text does not help the students to develop their metacognitive skills (finding out what they know and what they don’t know), and they become too dependent on the teacher. Often times, teachers rewrite the text or
water it down and change the vocabulary so that it matches the level that the students are at (Ishman, 2003, NADE). This again does not help students to obtain the necessary critical reading skills or metacognitive development necessary to achieve academic success on the college level. Instead, it makes deaf students more dependent thinkers who are not able to understand complex sentence structure, complex concepts and syntax or higher levels of vocabulary. They see reading not as a tool but a source of frustration, and see the teacher as the only person who can help them out of the confusion they experience when reading (Ishman, 2003, NADE). Kenneth Goodman (1970) stipulates that "reading is a psycholinguistic process by which the reader (language user) reconstructs, as best he can, a message which has been encoded by a writer as a graphic display." The purpose of reading is the reconstruction of meaning. Meaning is not in print, but it is meaning that the author begins with when he writes. The task of the writer is to reconstruct this meaning as he reads. One of the principal theories of language learning is that "learning of language comes through interaction with input from that language and its users in many information-getting situations (Krashen, 1991).

Goodman (1970) indicates that, typically, readers utilize three cue systems simultaneously to reconstruct meaning. Comprehension depends on successful processing of three kinds of information: “graphophonic” (hear-see), syntactic, (word order), and semantic meaning (Ishman, 2003, NADE). Many deaf readers are at a disadvantage in being able to use these cues in the same manner as hearing readers. For many deaf students, reading the printed page may necessitate that student’s
mastering a 2nd, 3rd, or even 4th language (ASL, spoken English, signed English, foreign sign language (Ishman, 2003, NADE). This challenge is especially difficult when the students may do not bring to the reading task a sufficient knowledge of syntactical pattern markers such as function words and inflection suffixes, which serve as cues to help them recognize and predict structure because they often do not have an intact first language. When they have the linguistic and semantic knowledge of words, they can have a broader vocabulary and understanding of the syntax, then word recognition and comprehension can happen (Fishler, 1985).

In order to derive meaning from language and then from reading, the reader must be able to provide semantic input. Researchers of reading conclude that the more that is known "behind the eye", the less visual information is required to identify meaning. The opposite is also true. The less non-visual information that a reader possesses, because of unfamiliarity with content and language structure, the more difficult the reading task (Ishman, 2003, NADE). Because American Sign Language is a visual language (the language used by the deaf), there is immediate feedback because there are at least two people conveying information. With written English, readers are left alone independent from the person giving the information. Therefore, they have to figure out the three reading cues that most hearing students can benefit from to become skilled readers. Written English does not parallel ASL, which creates problems for deaf readers when reading text. Deaf students get lost because of the complicated syntax and verb forms which are not identically represented in ASL. Comprehending written English requires readers to work in isolation unlike ASL communication.
Therefore, deaf students will often misunderstand the visual, syntactical, and semantical cues on which hearing student reply on when reading (Ishman, 2003, NADE). Researchers claim that deaf students use fewer critical reading strategies than hearing students and are less likely to utilize the "cloze" process, which is a process that helps students to fill in the missing gaps in reading. Therefore, they are limited with their anticipatory skills levels and have great difficulty with comprehension monitoring. Deaf students need skills and tools to help them identify and use appropriate reading strategies to become independent critical readers.

In the last decade, trying to improve deaf students’ reading abilities has become more of a focus. One such program, Cornerstone, is a technology-infused approach to literacy development designed for early elementary school children who are deaf and hard of hearing (or other students who learn well visually and struggle with literacy). Cornerstones approach values deep knowledge of words, encouraging children to explore the similarities and differences between words, the hierarchies of words, the sets of words along a continuum of the multiple meanings of words. Thus, the deaf students are able to increase their background knowledge to facilitate comprehension of written materials. Using a video on html, teachers set high expectations for their students around the following:

- **Identification of Words in Print** - Students will learn to recognize a large repertoire of vocabulary words in print.

- **Word Knowledge** - Students will learn about words conceptually, and understand multiple aspects of each word.
• **Story Comprehension** - Students will increase background knowledge to facilitate comprehension of written materials.

Teachers can immerse their students in the story for two hours every day over six or seven days, following the Cornerstones Lesson Guide. To maintain students' interest, varying approaches are utilized. For example, sign language, print, still images, and meaningful discussion can all contribute to the understanding of "pride." Reading the word in different contexts, asking and answering questions, and engaging in writing tasks all reinforce that knowledge (Loeterman, Paul & Donahue, 2000). Through this approach, children learn to understand that every story has a predictable story grammar. To help them see how the story elements fit together, teachers use a story grammar graphic. Then, thinking out loud as they read the story, teachers model the kind of reading that "good" readers practice.

Cornerstones lessons incorporate guided reading, shared reading, and independent reading. This unique approach is indeed a "cornerstone" needed for deaf students to become critical readers in the future. By encouraging "good reading practices", Cornerstones can help deaf children build their background knowledge, figurative language ability connected with idiomatic expressions as well as word recognition and vocabulary that are critical for reading higher level texts and can develop the higher level of metacognitive skills, comprehension monitoring, that is vital to critical reading (King & Quigley, 1985).
The problem and challenges I addressed in this project

It is a well known fact that deaf college students often enter college with weak reading skills. Current data indicate that on average, 18 year old deaf students leave high school having reached only a 4th-6th grade level in reading skills and that “more than 30% of deaf students leave their site of secondary education functionally illiterate” (Marschark, Lang & Albertini, 2002, p 157). One of the skills that is especially weak is in critical reading. So far in research and in practice, very little has been written on the subject of critical reading and deaf college students to assist teachers with developing hands-on materials to try when teaching such a relevant concept. Most research focuses on learning to read as opposed to reading to learn—thus the problem. This project hopes to provide some materials to help deaf college students improve their critical reading skills as well as information to help those teaching critical reading as a pedagogical process to enable students to be more independent thinkers. It will also include some ways in which parents and other teachers of the deaf can start this critical reading process at an early age. The earlier deaf children can start to read critically, the sooner they will be able to transfer that skill to higher levels of thinking.

The lack of critical reading skills is a serious problem for deaf college students when entering my Written Communication 1 class. Although they enter my class with reading skills, most are reading on an 8th grade level or lower. They enter with the knowledge of how to find the “who” and “what” questions asked but cannot figure out the “why” or “how come” questions. The latter types of questions generally focus on the author’s strategy and idea development (Kanar, 2002, p.3). These types of
questions become even more difficult when students move from non fiction writing to literature where much of the point is embedded in the author’s word choice. My challenge was to get them from this anticipatory level of metacognitive thinking (the lower level of thinking [English Works Website, Strassman, 1977]) to the comprehensive monitoring level of metacognitive thinking (the higher level of thinking [English Works Website, Strassman, 1977]). The low-level reading materials typically given to deaf students often do not provide enough opportunity for them to develop, practice and use metacognitive strategies that are necessary for critical reading. These students can find the evidence (the author’s support and organization) but have difficulty finding the central idea (the author’s thesis, purpose or both), implications (inferences from the non-fiction work to interpret the author’s meaning), and word choice (why the author chooses certain words to show voice and tone) (2002, p.3).

How the actual problem was different from what I anticipated

Through the use of the text The Confident Writer by Carol Kanor (2002) and the packets (Appendices 1 to 5) I developed for this project “Critical Reading”, my hope was to have my students move from the anticipatory level of metacognition to the comprehensive monitoring level which would enable them to be better critical readers. The problem that arose was not with teaching the skills but with the various reading levels my students had when they entered my class. Those students who scored low on the pretest I administered had a more difficult time responding to the weekly questions that related to the reading they did. When they didn’t understand the text, they were unable to write coherent answers. The questions that posed the most difficulty were the
central idea questions because the students often mistook the general topic of the essay for the author’s thesis; they often overlooked the implications or inferences that were embedded in the text, which were not obvious and the reason for certain word choices by the author. Ten weeks was not enough time for all of the students, especially the weaker ones, to fully develop these critical reading skills. Those students whose pretest scores were above 70 or above were able to make some progress but those students who received a 60 or below did not make sufficient progress to move on to the next level.

**The most challenging aspects of this project**

Not all people read at the same level be they deaf or hearing. Therefore, when trying to teach critical reading skills, the biggest challenge is reaching all levels. This was my most challenging aspect-- having the packets I created fit all the various-reading levels that my students had when entering my course. I had to make sure the students understood the language and content of the materials in the packets. For those students who scored above 70 on their pretest, both the language and content didn’t seem to be a problem, but for those who scored 60 or below, the language and the content was a struggle. Those students between 70 and 60 struggled but eventually were able to grasp the concepts and language. The other challenge was to make the packets a size that would not overwhelm the students but be user friendly.

Another unexpected challenge was getting the students to always bring the critical reading packets to class and use them when doing their homework. They originally thought these packets were a one shot deal that I wouldn’t refer to over and
over again in class. Once they caught on to the idea that these packets were their book for this part of the course, they would bring them regularly to class. This helped my students to understand the recurring need to use classroom resources.

The final challenge was formatting the packets for *my courses* (a computer program set up by RIT) to be used by its faculty members and students. This required scanning some of the materials and downloading others from my original files. Since I was a novice to *my courses*, I made mistakes in downloading but later rectified when going to the online service at RIT.

**My clients**

The members Language and Literature Working Group at NTID/RIT (especially Dr. Sybil Ishman and Eileen Biser) were very supportive in helping me figure out which materials should be added to the packets and which should be omitted. The secondary clients were the students in my class who used the packets but did not comment on their usefulness. Their results on the weekly reading assignments and in writing summaries were indications as to whether they found these packets helpful. Again, their ability depended on the level of reading with which they entered. However, the summary packets were helpful to all the students in my class and even to some students whom I worked with, who were not in my class. These other students were able to access the packets through *my courses* when they worked with me in the writing lab.
Solving the problem

Critical reading is an ongoing process that only improves through time and use. It is a process that requires interaction with the text, questioning the text’s assumptions and formulating and reformulating judgment about its ideas (Kirszen & Mandell, 2002, p.4). Therefore, my packets are not the only solution to the problem for deaf students but just one step in an ongoing process. After finishing this quarter, I came across a new textbook called --- The College Writer: A Guide to Thinking, Writing, and Researching by Vander Mey, et al. (2004). This book starts with a chapter devoted to critical reading and incorporates some of the materials that I have in my packets and much more. Consequently, this fall, I will use this book with the packets and compare the two to see which is a better medium for my students. My search for better materials for my students is ongoing as is the process of critical reading. The problem may never be completely solved because of the diverse levels of reading background my students have, however my packets and future books will bring them closer to becoming better critical readers. It is my hypothesis that my packets will be a better match since I have direct opportunity to adjust and modify them based on my students needs as they go along in this course.

Methods used to solve the problem

Once I realized that my students had not had the necessary instructions on how to become a critical reader, I decided to create packets (Appendices 1 to 5) that would give them a step by step approach to understanding the process, thereby moving the students along the metacognitive process from the anticipatory level to the beginnings
of the comprehension monitoring level. The first packet I developed was labeled

**Critical Reading** (Appendix 1). Borrowing the idea and some materials from Dr. Latty Goodwin, Reading Specialist at the Learning Development Center, this eleven page packet consists of:

*Goodwin’s Textbook Strategy*

*SQRRR*

*Tips on Paragraph Structure and related Topic Sentences*

*Organization Patterns of Words that Appear In Textbooks*

*Cue Words to Main Ideas*

*Mind Mapping Creation*

This packet enables the students to first recognize that a textbook is an impersonal structure that the students have to “destruct” in order to “reconstruct” to make the textbook their own. It then helps them to find key words that signal various types of sentences that relate to the main idea, subtopics, and details.

The next packet entitled **Annotation and Textmarking** (Appendix 2) provides multiple examples and tips on how to do annotation and textmarking. It also provides a text that we textmark and annotate to see how the SQRRR shows up in the process of reading the text. Some of the materials covered in this packet are:

1. Annotating guideline tips (adapted from Dr. Linda Rubel’s Written Communication 1).
2. Specific types of textmarkings that can be used.
3. Examples of annotating a text using textmarkings and annotations

The third packet, **Inference Information and Exercises** (Appendix 3),
explains what it means to infer, imply or suggest a meaning that might not be obvious but is taken from all the clues (details) that the text provides. McAnally, Rose and Quigley (1987) define inference, using Santrock’s (1986) definition, as “a relationship noted between one event and another that is not directly stated” (p. 178). In order to infer, students have to have knowledge of words and how they relate in sentences, especially complex sentences. Deaf students often have more trouble in this area because ASL does not have the same type of complementary and clausal sentence structure as written English. Therefore, this packet is important because it helps the students find the clues in the paragraphs and essays that lead to making correct inferences. This packet includes examples as well as an exercise where the students have to determine if the information is fact or opinion, which is part of critical reading. Finally, it contains exercises that require students to rely on the information in the text to understand the meaning. Another source of inference exercises is *Reading Skills for College Students* (5th ed.) by Ophelia H. Hancock.

The final packet is **Summary Packet I and II** (Appendix 4 & 5). These two packets contain information about writing summaries, which include only the important points and theses of essays or articles. The **Summary Packet I** (Appendix 4) starts with questions an active reader needs to ask in order to write a summary; then it explains the actual process of summary writing. It includes:

1. Definition of a summary
2. Reader’s tips for summarizing
3. Examples of summaries (with the original text included)
4. Mind mapping exercise to help write a summary (example and student exercise sheets)

This packet is then followed by **Summary Packet II** which includes the “Ishman Block” (Appendix 5), a visual structure created by Dr. Ishman (member of the Liberal Arts Support team and my mentor) to help students write the Summary essay. By using the “Ishman Block”, students are able to figure out how to put down only the important points of the essay and leave out the descriptive details. This process is essential for critical reading. The packet also includes an example of a summary essay, words that introduce an author or other sources to be used in the essay, the do’s and don’ts for writing a summary essay and a empty “Ishman Block” for the students to use in practicing this skill. With practice in summary writing, critical reading becomes more developed so that the students can move from the anticipatory level of metacognition to the comprehension monitoring level, which is necessary at the college level.

These packets are not a panacea but just a tool to help the students move along the continuum to becoming critical readers. Each of these packets is not only part of my class but through *my courses* and the library e-reserve is accessible to students in the writing lab when I work there and can be reproduced for other students to use. With more textbooks being developed emphasizing critical reading and incorporating ways to become a critical reader, these packets will be updated with new information. These packets can also be a source of information for high school teachers and parents of deaf students who are preparing for college. Giving potential college students these packets can help them see what is required for reading a college text book and these
packets can show them ways in which to read these books more personally; as Dr. Goodman states, in packet one, a book is a “constructed” impersonal object that is written by someone the reader does not know. The reader then has to “destruct” the book using SQRR, doing textmarkings and annotations and then “reconstruct” the book to make it become personal to the reader. When that is all completed, the reader, with the help of making inferences, has become a critical reader.

**Results Evaluation**

The expectations of this project were to develop materials that would enable the deaf students:

*To strengthen the critical reading skills which will help them continue along the English sequence.*

*To develop their skills of critical thinking and self-expression by writing clear and logical answers to questions related to the readings: by being able to find main points in reading and by being able to discuss and write these points logically and clearly.*

*To learn techniques to help them discover and organize their ideas.*

*To respond critically to and evaluate non-fiction essays in order to write appropriate analyses.*

*To think of themselves as a critical readers.*

The evaluation of the expectations and results of this project varied because of the diverse reading levels my students had when entering the class. The evaluations were the result of a bench mark reading test after teaching the concept of critical reading and working through the packets, weekly reading journals that asked critical
reading questions (author’s central idea, evidence/detail, implications and word choice, audience and purpose [Kanor, 2001, p.8]) and an exit reading test. Unfortunately, their entrance Michigan test was not taken again after their entry into NTID, so I was not sure what each student’s level might be upon entering my class. The Michigan test is administered upon initial entry and is a starting point for NTID English classes. Thus, depending on a student's score, there maybe a "lag time" since the test was given and the time the student enters my course.

From the bench mark test that covered comprehension, implication and vocabulary, I was able to categorize the students into three levels- lowest reading level students, middle reading level students and appropriate reading level students. These categories were determined by the grade they received on the bench mark test. Then, I used the weekly reading journal questions to see how they progressed.

Lowest reading level students’ results:

**Bench mark test:** they scored 60 or below on the reading test given after the critical reading segment of the course was completed and after they had had experience with the packet. They also showed weak annotation skills and tended to highlight and underline almost everything on the test.

**Weekly reading journals:** the questions from the reading essay for the weekly journal related to the details in the essay and they were able to answer them. However, those related to more critical reading they remained unable were to answer correctly. Furthermore, when they did not know what they were reading and did not know how to use the packets correctly to help them, their written answers were often times not
understandable. Their grammatical errors were both global and local. However, their
textmarking and annotation skills became more focused during the quarter.

**Final reading test:** once again they received scores below 60. The packets may have
only helped slightly, especially in the area of textmarking and annotating but not
enough for them to move on to the next level of reading.

**Middle reading level students’ results:**

**Benchmark test:** they scored between 60 and 70. Although they passed, they scored
low on questions that pertained to inference ideas. Their textmarkings and annotations
were more focused than the lower level but often the annotations did not sum up the
point in the paragraph.

**Weekly reading journals:** they were able to answer more of the weekly reading
journal questions correctly than the lowest level but still struggled with the author’s
thesis and the implications. Their sentence structure was sometimes difficult to
understand because they too started out with global errors. As the quarter proceeded,
those global errors became less frequent, and the errors they tended to make were
more local errors. The students greatly improved their annotation and textmarkings
skills by using the packets to help them sort out the clues to express their answers to
the critical reading questions more clearly.

**Final test:** they scored between 69 and 80, and their annotations and textmarkings
focused more on the appropriate information and not just random ideas. The packets
seemed to have benefited this group the most.

**Appropriate reading level students’ results:**
**Benchmark test:** these students scored between 75 and 90. They did very well on the inference part of the test as well as the critical reading questions. Vocabulary was the weak part here. Their annotations and textmarkings were clear and concise, which their test score reflected.

**Weekly reading journals:** this group was able to answer most of the questions related to implication, detail, word choice and application. However, they sometimes confused the author’s thesis with the main topic of the essay they were reading. Their responses were written well with only local grammatical errors. The annotations and textmarkings were clear and concise. They seemed to have grasped the idea of critical reading and how to use the packets to improve the skill with which they had entered.

**Final reading test:** they scored between 85 and 97. Their annotations and textmarkings were clear and concise. By now, they had comprehended the skill of annotation well in order to make the annotations “their own”. They were ready to move on to the next level.

Although the expectations that were set up for these students were not meet by all students, the middle to the appropriate level students were (for the most part) able to:

* strengthen and develop critical reading skills which will help them continue along the English sequence.

* develop critical thinking skills and self expression by writing clear and logical answers in their weekly reading journals.

* respond critically to and evaluate non-fiction essays in order to write appropriate
analyses.

*think of themselves as critical readers and writers.

Unfortunately because of their low entry level reading ability, the members of the lowest group were not able to reach these expectations. However, they were beginning to see themselves as critical reading learners and were able to recognize where their weakness were. Even though the packets were not as successful for them as for the other groups, they were able to benefit from the organization of the packets and from the exercises and examples in the packets.

**If I were to continue with this project:**

If I were to continue with this project, I would set up an ideal situation whereby I would have all the incoming students in Written Communication 1 complete either the Michigan test or the Nelson Denny test so that both the students and I could see their actual reading level. Then, I would proceed with teaching critical reading and would have in place added tutoring or workshops for those students whose Michigan test score and their in-class test score were not at an appropriate level. I would also continue to use my new text book, *The College Writer: A Guide to Thinking, Writing and Researching*, as well as look for other text books with more instruction on critical reading. I would also continue to look for CD Roms that accompany textbooks to see which ones would have critical reading practice exercises. Although *The College Writer* has a CD Rom, none of the exercises specifically relate to critical reading. Most college textbooks that have CD Roms with reading exercises are reading textbooks. It would be an ideal project to develop a CD Rom that our department could use for all of its
English courses, if we had the time and money to produce. Another possibility is to contact the publishers, Houghton Mifflin, and suggest working on a user friendly CD Rom related to critical reading. For now, I would modify my packets so that the same information that is currently in the textbook I use is not repeated but merely updated. I would still keep the packets available on my courses by setting up a “dummy” course so that other students and teachers could have access to the materials.

Another future endeavor would be to set up a web page that would focus just on critical reading. For help with that, I would like to ask Tao Eng to help in the set up. Tao Eng is not only a graduate of this program but of RIT’s Information Technology program and is deaf, himself. He has just produced a training program on line for his company that is very interactive and not overwhelming. Having him work with me would serve two purposes:

1. He would be a great role model for my deaf students to see what can be done when one reads critically and proceeds with one’s education.
2. He would make the web page user friendly so the students would not get frustrated and so that other teachers or parents could use the web page as well.

Although these projects are not impossible, constraints in time and resources might be some of the reasons the last two ideas might not come to fruition. It is possible, in the future, to apply for a grant through NTID’s grant department that would fund such an endeavor and allow me some time to work with Tao or the publishing company.

**Lessons and general learning gained from this project.**
Critical reading skills are crucial for college students, and they are skills we often times assume students have upon entering the postsecondary level. For deaf students, this can be a wrong assumption because of how they develop cognitively. Their path of learning is different from that of hearing students due to when they acquired language, the type of language they acquired and how they use that language for communication and learning. Knowing that their cognitive ability is different than that of the hearing students enables teachers to approach the concept of critical reading in a more focused way so that deaf students who are still at the metacognitive anticipatory level of learning can move along the continuum. It is also important to realize, like some hearing students, some of these deaf students might not have the necessary language background that is required of a college student. Many may not have an intact language unlike most hearing students but like must ESL student. Thus, it is important to counsel these students in helping them to find the resources available to help them with their reading so they can continue on, if that is the avenue that is most plausible or counsel them to change their goals from one degree form to another (i.e. an AAS to AOS, both degrees are given through NTID).

Critical reading is not something that can be taught in ten weeks or even twenty. Critical reading is built on years of gathering information from the printed word, from daily conversations, from education and from society in general. Deaf students often do not have that built in facet to make the transfer from everyday knowledge to a more global knowledge that is necessary in college and for critical reading. I do not expect that my packets will be the link, only one small step in closing that gap between what
they know and what they do not know so that the unknown can become the known.

The other big lesson learned from this project is always to backup materials in triplicate. The computer makes our writing process so much easier but when materials are not backed up or printed in hard copy, valuable work can be lost.

**Recommendations for my department**

Critical reading is a skill needed for all majors and all students. My recommendation for my clients (department) would be to try and see if we could set up a program similar to Rosemarie Toscano’s IDEA tool program for Writing and Literature. That program has interactive features where the students can click on certain words or phrases to get the meaning, click on passages from a book to get the meaning and click on a way to have a passage done in voice, caption and ASL. The only problem would be in changing the exercises so that students have new exercises and reading materials from which to learn. This type of program is time consuming and almost needs a full time person to create the program and maintain it using the various books and CD Roms that are available. This is not a position I would like to hold because I enjoy teaching; however, I would enjoy working with the person to help with the updating of materials for the CD Rom. In the meantime, the dialogue that we have at our weekly meetings and other sessions is the best way to find out if the critical reading packets I have devised are appropriate and worthwhile.

**Information for teachers of the deaf and parents of deaf students**

Metacognitive strategy is the knowledge and control an individual has over his/her own thinking and learning (Strassman, 1999). At a later stage of cognitive
development, this process requires more comprehension beyond the printed page. It involves interaction - an active progress not a passive one where the reader knows what he/she doesn’t know, knows what he/she needs to know and knows how to apply it. If good readers make intelligent guesses while reading on their own then in class they could ask intelligent questions.

Metacognitive strategies are two fold:

1. Anticipate by examining the text and dipping into it.
   - notice the title and subtitle
   - look at the introductory paragraph and then look at the last paragraph to get a taste and an idea of what the writing is about.
   - notice the bold writing, italic writings and different type faces that appear throughout the text.

   This anticipatory strategy is the lower level question strategies that the reader first uses in understanding the text. This includes asking: who, what, where, when, how and why questions and centers around the “I” box narration (writing only about oneself).

2. Comprehension monitoring which the students need to be pushed into by
   - using text generated questions before reading
   - using teacher generated question before reading
   - using self generated question:
     *What do I know about the topic?
     * What do I need to know about the topic?
* What do I want to know about the topic?

This strategy moves the students’ future to the critical reading strategy where the students:
- define the terms as meant by the author
- make generalizations about the text
- ferret out values
  * what kind of person is the author
  * what would that person do that I wouldn’t do
- develop their own values
- translate the information in the student’s own words by annotating, making a picture concept that leads to a mind map and then finally a summary of the material read.
- compare and contrast
- make implications for a broader view.
- analyze and evaluate

These metacognitive strategies correlate to the skills needed for Critical Reading:

a. Preparing to read
b. Skimming
c. Reading / rereading
d. Annotation
e. Reflection
f. Analysis
These metacognitive strategies and critical reading skills also correspond to the rhetorical modes of communication that students have to learn and develop.

<table>
<thead>
<tr>
<th><strong>Rhetorical Modes</strong></th>
<th><strong>Metacognitive/critical reading skill</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>(metacognitive anticipatory level)</td>
<td></td>
</tr>
<tr>
<td>Descriptive</td>
<td>who, what, where, when, how, why</td>
</tr>
<tr>
<td>Definition</td>
<td>defining terms</td>
</tr>
<tr>
<td>(metacognitive comprehension monitoring level)</td>
<td></td>
</tr>
<tr>
<td>Classification</td>
<td>generalization</td>
</tr>
<tr>
<td>Summary</td>
<td>translating into one’s own words</td>
</tr>
<tr>
<td>Compare and Contrast</td>
<td>implication</td>
</tr>
<tr>
<td>argument/ problem-solution</td>
<td>summary analysis</td>
</tr>
<tr>
<td>analysis/evaluation</td>
<td>summary evaluation</td>
</tr>
</tbody>
</table>

These processes will finally all lead to understanding and application of reading literature to be at the critical level of literacy. Furthermore, they also follow Bloom’s pedagogical taxonomy of learning.

These are processes to develop the metacognitive skills that deaf students need before entering college. These processes can be started in the pre-school years by asking questions that will enable the deaf child to think beyond the “who” and “what” questions to get to the “why” of the story and by engaging the deaf child in an active
dialogue between the reader and the author’s representative, the teacher or parent.
Reading to any child is a vital part of a child’s learning process so the child can go from
learning to read to reading to learn. Deaf children should be read to, just as hearing
children are read to, in whatever mode of communication they use at home or at
school. This reading and engagement of questions will allow the deaf students’
cognitive abilities to grow while feeding into their megacognitive development to help
them become critical readers. Another possibility to foster critical skills is to have deaf
children create their own stories and sign them or have them put new endings to
stories they already know. Both of these activities will enable deaf children to develop
more "why" types of thinking in order to become better readers.

**Recommendations for deaf students in my class**

When students read any new assignment, they should use the SQRRR method as
well as textmark and annotate the reading. They should continually read current event
types of magazines such as *Time* and *Newsweek* and newspapers such as *The Wall
Street Journal* and *The New York Times*. They should try to make vocabulary lists of
unfamiliar words, following the example in the *Critical Reading Packet 1*. When
deciding on what to read for fun, they should read a book that might be more
challenging in context. Students should be reminded that reading should be fun as well
as educational, so they should not become frustrated or overwhelmed when they
encounter new vocabulary. Finally, students should make reading an everyday event.
As with any skill, “practice makes perfect”, and reading is something that needs to be
practiced in order to be improved. Finally, always ask “why” and “what for” questions in
order to have an internal dialogue with the author.

**Recommendations for deaf high school students contemplating college**

The best advice would be to read everyday and read a variety of books ranging from children’s picture books and fairy tales to more age appropriate readings recommended from teachers and librarians. Despite the assumption that children's literature may seem beneath the level of most high school students, this type of literature directs attention to creative vocabulary and imaginative sentence structure, which will appear in post-secondary educational readings. Often times, children's books have embedded language, like relative clauses, that frequently confuse deaf learners. Deaf high school students should become detectives and focus on the "why" questions (comprehension monitoring metacognitive level) related to what your are reading. Also, they should watch captioned movies, especially classical movies such as “A Midsummer’s Night Dream”, “Hamlet” “Romeo and Juliet” to name a few. There are also fairy tales done in ASL that would be excellent to watch and see how the stories unfold. While watching the movies, the students should think about different possible endings and think about why the movie did end that way and what was the message behind the movie. They should read *Time*, *Newsweek*, *Sports Illustrated* and jot down new vocabulary words. They should continually ask “why” just like a child does at age two and don’t be just satisfied with one answer but seek more answers and become inquisitive.
Skills and Knowledge mastered through My Plan of Study that were most helpful

During the past three years, I have taken eight courses related to Deafness. Each has given me a little more insight into how Deaf college students learn, read and think. In the “Structure of ASL”, I was able to see how confusion develops when learning a second language and how that might influence the learning of English for deaf students. When a person’s first language is not fully intact, learning a second language is made more difficult because the lack of knowledge of a first intact language interferes with learning a second language, thereby leading to one of the problems in learning to read critically. Also, Deaf students know how to converse in ASL but do not know the language itself and cannot make a connection between English and ASL. They often think that ASL is just another form of English only with signs (Nover). They do not understand the linguistics of ASL and therefore have a hard time learning English and learning how to read beyond the lower level (who, what, where, how questions).

When I took “Perspectives on Teaching Deaf and Hard of Hearing Students”, I was able to see how the social constructivism theory of education could apply to teaching Deaf students how to read critically. Instead of teaching by the traditional rote “banking system” method, I found that using Paulo Friere’s “dialoguing” would be an avenue to make the path to critical reading more experiential and to help to match the unknown with the known.

Both “Language Acquisition and Variation” and “English Language Acquisition” put into perspective the missing pieces regarding the metacognitive development of
deaf students. When there is a delay in language development of any kind, both the
cognitive and metacognitive development of any child suffers. Often deaf students are
born into hearing and non-signing families where language development does not begin
immediately but is often delayed, and the window of opportunity for learning language
is often in the later stages of the critical period and not in the beginning stages. Later
when the skill of critical reading emerges, the deaf students have a limited working
memory to draw from. Thus, the later phase of metacognition, known as the
comprehension monitoring system, is difficult to master. There, my project
began.

My other courses such as “The Psychology & Sociology of the Deaf Adolescent”
stressed the importance of understanding that the cognitive development of the deaf is
different not deficient. Studies have shown that the rate at which the deaf develop
cognitively is the same, the difference lies in the language acquisition phase and how
much outside knowledge they are exposed to. This is important to know when teaching
reading in order to provide the necessary information that may be missing due to
inadequate language exposure. My final course in my major concentration,
“Developmental Issues and the Deaf Learner,” enabled me to look at research in the
field of critical reading with a more educated perspective and not take research at face
value. It allowed me to question research hypotheses and results in a more scientific
manner and enabled me to have a more selective approach when finding research for
this project.

Finally, the literature courses that were part of my program rounded off my
experience and allowed me to practice being a critical reader of literature, thereby helping me to recognize areas where my students would have difficulty reading literature using the comprehensive monitoring skills necessary for these types of courses. These courses also covered the periods of literature that are taught by the Liberal Arts Support Department in the RIT English sequence. Taking these courses enabled me to be better prepared to teach the necessary genres for the Writing and Literature courses offered to the Deaf students and to solidify the connections between non-fiction writing (which is part of Written Communication I) and fiction writing.
Annotated Bibliography


The study is of importance to teachers because it showed that deaf students were as capable as hearing students in the area of metacognitive abilities at an elementary level. Students’ capacity for reflection and their strategy for repertories could be improved by a focus on metacognitive activities such as recognition, discrimination, judgment and cognitive restructuring of event by focusing on "how" instead of "what" questions. These skills could also be improved by providing students with experiences that could help them construct an understanding of their environment and the people around them.


This book is pivotal to the explanation of cognition and the psycholinguistic explanation of the reading process. The chapter "Mystery of memory and thinking" discusses how the process of memorization can be not only internal but external, which demonstrates a fundamental characteristic of a higher form of thinking.

Cornerstones is a technology-infused approach to literacy development designed for early elementary children who are deaf and hard of hearing (which can be used with other students who learn well visually and struggle with literacy). The Cornerstones approach values deep knowledge of words, encouraging children to explore the similarities and differences between words, the hierarchies of words, the sets of words along a continuum and the multiple meanings of words. Thus they are able to increase their background knowledge to facilitate comprehension of written materials. These lessons incorporate guided reading, shared reading, and independent reading. All these terms are explained in "pdf/strategies.pdf" (80K PDF file), a supplement to the Lesson Guides.

English Works. http://depts.gallaudet.edu/Englishworks

The web site, developed by Karen Kimmel for Gallaudet University English Department from Gerald Begy, SUNY College of Brockport shows the questioning strategies people use from a low level to a higher level of thinking, which corresponds to Bloom’s Taxonomy as well as to Metacognitive thinking.


Critical reading is the ability to read with analysis and judgment. According to Dr.
Frances Triggs, a noted reading specialist, "...it requires a contribution by both the author and the reader and an interplay which results in a new understanding". This chapter explores the necessary processes that a reader must go through in order to do critical reading such as comprehending the material, evaluating the source, identifying fact from opinion and reacting by logically examining the author’s viewpoint, the soundness of his premises, and the accuracy of his conclusions.


A study was done comparing hearing and deaf students understanding words in context and out of context. Although the deaf students had a lower response than the hearing students, word recognition was still possible when they have the necessary skills to translate the words. It is important for the deaf student to have linguistic and semantic knowledge of words in order for this to happen. When they have a broader vocabulary and understanding of the syntax, then word recognition can happen quickly and accurately.


In this chapter, Goodman sets up the foundation explanation of what goes on in the
mind as well as all readers processing the written work. He also states that reading
requires three cues simultaneously: graphophonic, syntactic, and semantic. Skill readers
make good predictions but can also recover when they have read the cues incorrectly
which can change the meaning. However, another important element is how much
background the reading brings to the task.


This well respected text discusses among its topics "inner speech and thought", which is
also discussed in Alex Webster’s Deafness, development and literacy, which support the
idea of "inner speech" as an internal representation which happens when one reads. He
believes that the "inner speech" depends on the development of logic in the child. This
development is contingent on the child’s mastering the social means of thought, that is,
language. Language development is essential for critical thinking and educators of the
deaf need to expand deaf students’ language by helping them to tap into their" inner
speech".

In2books. http://www.in2books.org/

In2Books is a nonprofit organization founded in 1997 to enhance the literacy skills of
our nation's students and to encourage their love of learning. In2Books takes an
integrated approach that involves students, teachers families and adult Pen Pals in the
learning process: The style of this organization’s critical reading questions for its
volunteers can be applied to deaf students as well. By using these strategies, deaf students can have another tool in reaching the goal of being a higher level thinkers in their metacognitive development.


Many researchers use this book to explain the reading process of the deaf child while also showing the reading process of a hearing child. The section of metacognitive abilities stresses the importance of background knowledge in helping to understand a text and also in helping to move from learning to read to reading to learn, which is necessary for critical reading.


This chapter focus is how the student can become a critical reading by becoming an interactive participate when reading. This means that the reader has to know that words can have different meanings at different times, and can mean different things to different people depending on their reading experience, their cultural background and their experiences as well as text expectations, desires, and prejudices that influence how he or she reacts to and interprets the words. Finally the reader has to evaluate what he or she is reading using all the previous facets that are required for critical reading. Reading critically means interacting with a text, questioning the text
assumptions and formulating and reformulating judgments about the text.

In this article, Krashen stresses the importance of a strong first language in order to teach a second language. The development of literacy when we learn to read by reading and making sense of what is on the page through vocabulary, spelling, writing style and grammar. He further points out that one of the principle theories of language learning stipulates "learning of a language comes through interaction with input from that language and its users in many information-getting situations."


This article discusses the issue of instructional reading programs for the deaf which address the development of skills such as word identification, word knowledge and comprehension (including prior knowledge and metacognition). The authors have developed and field tested a literacy approach with young deaf and hard-of-hearing children. The project they developed is know as Cornerstones, which is a teaching based unit system for reading. Some of this information, even though it is directed at younger deaf children, is also applicable to deaf college students as well.

research to practice. New York: Oxford University Press.

The authors offer parents and practitioners accessible information and evaluation of the research literature which addresses the needs and strengths of deaf children. The book also addresses the methods used which have been successful as well as unsuccessful. Especially beneficial for this project are the chapters related to language development, cognitive development, reading development and literacy.


Reber and Senior designed a program that would help Deaf students better understand the reading materials in their college courses. This project focused on analyzing skills, vocabulary development, reading comprehension, summarization tasks, figural/verbal reasoning problems, logic exercises, and graph interpretation using different passages in texts and different assignments in order to help them reach the level of reading understanding they need. These activities were done in individual sessions.


This practical application of reading strategies can be applicable to all students. The detailed chapters give explicit examples of how to write summaries, how to analyze texts, how to read for college courses, and how to read for everyday life situations.

This collection of issues focuses on how deaf children learn and how the environment plays an important role. The chapter related to the child and the family discusses the various ways a deaf child from a deaf family develops language. Some of these techniques such as turn taking, attention getting and eye gazing foster cognitive skills that can be used by deaf children to help them to think beyond their world and think more globally in order to read in a critical fashion. The chapter on cognition brings up the point of deaf children being more one dimensional in their thinking, which might be the reason they have a harder time getting from the anticipatory level of metacognition to the comprehension monitoring level, which is needed for critical thinking.


This article focuses on the dependent and independent strategies that should used by deaf students which link to metacognition. The article stresses that the current methods of teaching these children reading often impede their development of mature metacognitive knowledge and control. The low-level reading materials typically given to deaf children may not provide enough opportunity for them to develop, practice, and use metacognitive strategies. If deaf children are taught metacognitive strategies, then they are better able to read critically.

This study focused on deaf college students with strong reading and writing skills. It identified their social, educational, and demographic characteristics which lead to why they were successful critical readers. Their early exposure to and intensive experience with reading as an enjoyable pastime enabled them to develop the necessary skills for college reading. It is from this article that insights about critical reading skills of college deaf students might develop.


Although this book focuses mainly on younger deaf children, the contents related to reading and cognitive development have relevance to critical reading skill of all deaf learners. The chapter entitled "Reading, writing and thinking" covers the question of what do deaf children bring to reading such as the "Bottom-up approach" or the Top-down approach" or both. It also presents the view of "inner speech" coding that is important for accessing the systems of working memory when reading critically.