APPENDICES I A1 TO I C2

TEXTS USED FOR COLLECTION OF DATA*¹

IA1: PRINT FAMILIAR
IA2: PRINT UNFAMILIAR
IB1: PRE-STRUCTURED FAMILIAR*²
IB2: PRE-STRUCTURED UNFAMILIAR*²
IC1: SELF-NAVIGATING FAMILIAR*²
IC2: SELF-NAVIGATING UNFAMILIAR*²

*¹ each text is followed by a discussion of its analysis
*² only the first page has been reproduced
What Are Business Rules?
Dr. Paul Dorsey
October 26, 2002

This is a harder question to answer than you might think. The main problem is that since “business rules” is a relatively new term, there isn’t a consistently accepted definition throughout the industry. There are many different groups all using the term “business rules” - all having different meanings in mind.

The origins of the term and the reasons for its popularity in the industry began with the “logical business rules” community founded by Ron Ross and Terry Moriarty using the name “The Business Rules Group.” Their perspective on business rules is quite similar to what a traditional systems person might call a “system requirement.” Of course, the term business rule is not focused on what the system needs to do but rather what it needs to support. However, this is what good analysts have always thought that a system requirement meant.

For decades, the best systems analysts approached a project by first trying to understand what the system they were designing needed to accomplish. Only after this solid foundation of the “business rules” of the organization was collected and codified, did the analyst, working with users, come up with the actual system level requirements. From the perspective of this first group, “a business rules approach” is simply a renaming of the process that good analysts have been using for years.

Early thinking about rules: The business rules group
This is not to say that The Business Rules Group didn’t bring anything new to the table with all of the work that they did. Quite the contrary, more than just popularizing the term “business rules” and spurring thought about these rules for which we owe them a debt of gratitude, we also owe them for trying to create the first formal taxonomies of business rules. The first substantive contribution in this area
was Ron Ross' Business Rule Grammar which was published in *The Business Rule Book: Classifying, Defining and Modeling Rules*, Second Edition, 1997. Ross' grammar, which attempted to formalize the English-language representation of a business rule such as “Every purchase order over $50,000 must go through three levels of approval.” This represents one of the rules by which an organization operates which needs to be precisely represented in a machine readable fashion.

Why didn't this grammar catch on? First, even the basics of the grammar are very complex. Many people could not figure out how to use this grammar effectively. Even those very familiar and supportive of the grammar were sometimes unable to represent many business rules using the Ron Ross system. Even if the grammar had evolved and had eventually been in widespread use, the entire idea of a grammar for the representation of system rules eventually fails whether it is language or diagram-based. There are just too many rules in most systems.

As the BRIM™ environment evolves towards supporting virtually 100% of a system’s business rules within an integrated repository, it has been observed that the real number of rules in an ERP-type system is in the hundreds of thousands. Large systems may have a half million or more. To use a business rules approach and store these rules in some type of repository means that the repository must be manageable. It is not possible to reduce the number of rules in a system. All that can be done is to improve the efficiency of gathering the rules and make some intelligent assumptions about what the rules are so that we don’t have to independently ask a half million questions before building a system.

The other contribution of The Business Rules Group is represented by the papers that the group has recently published, which have attempted to create a structural taxonomy of business rules where rules are typed and, at some level, parsed. Again, in a full development environment, the existing taxonomy is not directly usable but does represent some excellent thinking and it allowed us to focus on the issue of structuring and parsing business rules.
In summary, the contributions of the Business Rules Group were that they popularized the term and concept of business rules, proved that it was possible to build a precise rule grammar and provided the intellectual foundation for structuring and parsing the business rules of an organization.

**Business rules in the oracle database community**

How did the information from The Business Rules Group find its way into the Oracle database community? Early on, David Hay and Bonnie O'Neil were members of The Business Rules Group and through papers and conference presentations made those of us in the Oracle community aware of the exciting work going on in the business rule community.

The database community has been working towards what has currently evolved into the "business rules approach." Oracle database professionals use the term "business rules" assuming that the database already exists and the business rules (subset of first group's definition) that should be enforced are the data rules that cannot be easily represented within an Oracle database or, in Designer shops, those that could not be handled within the Designer repository.

Database professionals created many trigger-based rules environments supporting several rule pattern types such as "Start Date is less than End Date" and similar rules. This group wanted to take some of the business rules, particularly those that are temporally volatile, and decrease the cost of gathering and implementing them. If the only way in which a rule is enforced is somewhere in some application code, if the rule ever changes, finding and changing that code is very expensive. Most database professionals do not think in these terms but some quantity of the rules have always been placed in data in tables to allow users to maintain the rules without the intervention of an IT professional.

Even the "lowly" reference table represents a business rules approach. The values in a reference table articulate the rule "What are the allowable values for attributes in other tables?" Usually there is an application that allows super-users to manipulate the values in these reference tables. Even when the values are not maintainable by users, they can be quickly and easily changed by those with the requisite privileges to do so.
Generic modeling which became popular five years ago is also another business rules approach. In a generic model, some portion of the structural business rules are stored as data and can therefore be easily changed.

The perspective of the database community and many of the business rule tool vendors is that they must satisfy the business rules that lie outside of the purview of the traditional tools used to create and manage databases.

Limitations of the current vision
This vision of business rules described above is limited and logically flawed. The fact that there exist employees working within departments in an organization is a business rule. These types of rules just happen to be enforced through the database. It is not logical to artificially declare that anything that cannot be placed into the database is a "business rule." This limited vision of what business rules are has several permutations:

1. "Structural" (not process-related) rules used by Designer shops/Oracle home-grown business solutions mainly working to support rules such as "Start date must be less than End date."
2. "Process rules" as characterized by many "business rule" products by companies like Blaze (now Fair, Isaac), Savvion and ILOG that provide a so-called process flow environment where it is assumed that the database exists and allow users to specify the processes governing the objects in the database. A type of process-flow charting, state transition engine or UML-based drawing tool is typically used for these types of rules.

The problem with both of these types of tools is that the end result is quite fragmented. Some business rules are enforced through the structure of the database; others enforced through data in generic portions in the database and still others through the add-on rule repository. Since no system enforces all rules, the ones left over must be enforced through code. Even though the efficiency of system development may have been improved by using the mechanisms described above, this is still an inherently flawed approach.
Dulcian’s approach

The term “business rules” has a slightly different interpretation at Dulcian. There are two reasons for gathering business rules:

- As a communication vehicle for users to understand what their system will support
- To generate the system

In order to satisfy the communication reason, users must be fed back rules in a format that is close to the way in which they think and talk. This means that text and diagrams must be created using the language of the users to gather and represent the requirements. Unfortunately, the way in which users think and talk about their system requirements is limited by the imprecision of language and the inherent incompleteness of the requirements gathering process. These problems are insoluble. Ultimately, we must represent back to users what they have communicated to us and accept the limitation that what has been gathered is not complete or precise enough to allow us to build a system.

At Dulcian, this type of requirement is termed an “analysis requirement.” Some examples include:

- Problem customers should be contacted on a weekly basis
- Preferred customers receive 3% discounts except on low-margin items.

These types of requirements are obviously imprecise and cannot be directly implemented. What exactly is a “preferred customer?” What is meant by a “low-margin item?” Even if we could make language more precise and complete, we would still fail because of the sheer number of rules that need to be gathered. A text repository would be so large that it would quickly become unmanageable.

“Implementation rules” meaning a formalized mapping of the analysis rules to a specification allowing for direct implementation in a system is how Dulcian has solved the problem described above. Implementation rules must be readable by a user as well as understandable enough to be audited by users as a faithful formal representation of their analysis rules. These implementation rules must also be machine-readable in order to generate the system.
Summary
The term “business rule” means different things depending upon who is using it.
To someone from The Business Rules Group, it may mean a business level requirement of the system that may or may not be represented in a more formalized mechanism in a grammar or taxonomy. To a database professional, it may mean a business requirement not easily enforced in the database (structural requirement) or process flow. Analysis and implementation rules as described above together form what are called “business rules” at Dulcian.

Analysis of text
The text was printed out and given to the subjects. It has thirty six clauses, two main ideas and six supporting details.
Main ideas identified are:

1. The origins of the term and the reasons for its popularity in the industry began with the “logical business rules” community founded by Ron Ross and Terry Moriarty using the name “The Business Rules Group.” Their perspective on business rules is quite similar to what a traditional systems person might call a “system requirement.” Of course, the term business rule is not focused on what the system needs to do but rather what it needs to support. However, this is what good analysts have always thought that a system requirement meant.

2. For decades, the best systems analysts approached a project by first trying to understand what the system they were designing needed to accomplish. Only after this solid foundation of the “business rules” of the organization was collected and codified, did the analyst, working with users, come up with the actual system level requirements. From the perspective of this first group, “a business rules approach” is simply a renaming of the process that good analysts have been using for years.

Supporting ideas are:

1. Ross’ grammar, which attempted to formalize the English-language representation of a business rule such as “Every purchase order over $50,000 must go through three levels of approval.” This represents one of the rules by
which an organization operates which needs to be precisely represented in a machine readable fashion.

2. It is not possible to reduce the number of rules in a system. All that can be done is to improve the efficiency of gathering the rules and make some intelligent assumptions about what the rules are so that we don't have to independently ask a half million questions before building a system.

3. Database professionals created many trigger-based rules environments supporting several rule pattern types such as “Start Date is less than End Date” and similar rules. This group wanted to take some of the business rules, particularly those that are temporally volatile, and decrease the cost of gathering and implementing them.

4. Generic modeling which became popular five years ago is also another business rules approach. In a generic model, some portion of the structural business rules are stored as data and can therefore be easily changed.

5. limited vision of what business rules are has several permutations:
   “Structural” (not process-related) rules used by Designer shops/Oracle home-grown business solutions mainly working to support rules such as “Start date must be less than End date.
   “Process rules” as characterized by many “business rule” products by companies like Blaze (now Fair, Isaac), Savvion and ILOG that provide a so-called process flow environment where it is assumed that the database exists and allow users to specify the processes governing the objects in the database. A type of process-flow charting, state transition engine or UML-based drawing tool is typically used for these types of rules.

6. In order to satisfy the communication reason, users must be fed back rules in a format that is close to the way in which they think and talk. This means that text and diagrams must be created using the language of the users to gather and represent the requirements. Implementation rules must be readable by a user as well as understandable enough to be audited by users as a faithful formal representation of their analysis rules. These implementation rules must also be machine-readable in order to generate the system.
Fatal anaphylactic reactions to food in children

Canadian Paediatric Society (CPS)
Approved by the CPS Board of Directors in 1994

Canadian Medical Association Journal 1994; 150(3):337-9
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Contents

• Characteristics of children at risk
• Characteristics of high-risk foods
• Mechanisms of anaphylaxis
• Diagnosis
• Prevention (avoidance of food antigens)
• Pharmacologic treatment
• References

The number of deaths caused by anaphylactic reactions to food is increasing each year. The reason for this increase is unknown; however, one study has implicated widespread use of protein additives in commercially prepared food. In this statement we review characteristics of children at risk and of high-risk foods, mechanisms of anaphylaxis and important aspects of diagnosis and treatment.

Characteristics of children at risk

Patients at risk of dying from a food allergy usually have a history of gastrointestinal or respiratory symptoms or of urticaria or angioedema immediately after eating a food to which they are allergic. In a case series, six young patients with fatal anaphylaxis after food ingestion and seven others with near-fatal anaphylaxis not only had a history of reactions to food but also had asthma and were highly allergic to many substances. Their parents or caregivers had failed to appreciate the potential seriousness of the food allergies. Four of the six fatal reactions occurred at school. Although self-injectable epinephrine had been prescribed for half of the children with fatal reactions, they did not have it available when they died. Many of the children
had deceptively mild symptoms for 1 or more hours before breathing problems developed, yet none of them received epinephrine before severe respiratory symptoms developed.

**Characteristics of high-risk foods**

Some foods pose a much greater threat than others. Peanuts, tree nuts (e.g., hazelnuts, walnuts, almonds and cashews), eggs and cow's milk are the most frequent culprits, but fish, crustaceans, molluscs and soy may also be lethal. Even trace amounts of these foods can provoke anaphylaxis in susceptible patients. Food antigens may be "hidden" in cookies, cakes, cereals, candies or other foods.

**Mechanisms of anaphylaxis**

When specific IgE forms against a food antigen in a susceptible person, subsequent exposure to the antigen may result in IgE-mediated activation of mast cells and basophils, followed by release of histamine, tryptase and other biologically active substances. Occasionally, the mechanism causing anaphylaxis is unknown; such cases include anaphylaxis triggered by metabisulfites used as food preservatives and anaphylaxis cotriggered by exercise.

**Diagnosis**

For any acute reaction to food a description of the symptoms and signs and of all foods eaten before the reaction, including manufacturer and lot number of processed foods, recipe ingredients and all other relevant information, should be obtained. The food implicated in the reaction should be precisely identified. Elevated specific IgE levels to food antigens can be detected with the use of epicutaneous (not intradermal) tests, performed with appropriate controls and precautions by a trained, certified clinical immunology and allergy specialist, or with the use of in-vitro tests such as the radioallergosorbent test. If necessary, uneaten portions of the food suspected of triggering the anaphylactic episode can be tested for specific antigens by means of an inhibition immunoassay.

**Prevention (avoidance of food antigens)**

The patient must strictly avoid the food to which he or she is highly allergic. Some antigens (e.g., peanuts) may have to be avoided for life. Avoiding a food antigen
completely may be quite difficult. In a recent survey 50% of children allergic to peanuts had unintentionally ingested them within the previous year.

Patients and their parents should be provided with written lists of terms used on packaging to describe food proteins: egg may be listed as "albumin" or "lecithin," and cow's milk may be listed as "whey," "casein" or "caseinate." Labels on processed food must be scrutinized meticulously each time the food is purchased. Antigens such as peanuts may be found unexpectedly in oils, flours, processed meats, and milk and cream substitutes. Patients and their parents must be aware of potentially lethal food substitutions, such as inexpensive ground nuts (e.g., peanuts) for more expensive tree nuts (e.g., almonds) or inexpensive vertebrate fish (pollack, also known as surimi) for more expensive crab meat. Any food (e.g., items sold in bulk) can be cross-contaminated through direct or indirect contact with other food.

Children at risk of lethal allergic reactions to food must not eat food given to them by other children or by adults other than their parents or caregivers. In restaurants children and their parents should obtain information about all ingredients in dishes before ordering and eating meals. The Canadian Restaurant and Food Service Association, Toronto, has recently instituted the Allergy Awareness Program, through which participating restaurants maintain lists of food ingredients and always have a knowledgeable employee on site to answer questions about ingredients.

The Allergy Asthma Information Association (10-65 Tromley Dr., Etobicoke, ON M9B 5Y7) provides up-to-date information about food content and labelling, manufacturers' recalls because of food content or labelling errors and "safe" substitutes for common allergenic foods.

**Pharmacologic treatment**

The goals of pharmacologic treatment are to maintain airway patency and systolic blood pressure. An epinephrine injection is the initial treatment of choice for anaphylaxis: it suppresses release of mediators of inflammation from mast cells and basophils, and it directly decreases vasodilation, edema and bronchoconstriction. Epinephrine must be administered promptly at the first warning symptoms, such as
itching or swelling of the lips or mouth, tightening of the throat or nausea, and before respiratory distress, stridor or wheezing occur.

Epinephrine is available in a preloaded syringe (Ana-Kit; Hollister-Stier, Etobicoke, Ont.) or in a springloaded, self-injectable system (EpiPen; Allerex Laboratory Ltd., Kanata, Ont.). The Ana-Kit epinephrine syringe is suitable for children weighing less than 12 kg and for multiple doses. It is relatively inexpensive but more difficult to self-administer than the EpiPen. (For dose, see Table 1.) In young patients serious adverse effects of epinephrine such as cardiac arrhythmias and hypertensive crises are extremely rare, and the life-saving benefit of injecting epinephrine in cases of suspected anaphylaxis outweighs any small risk of side effects.

Epinephrine inhalation (20 to 30 puffs from a metered-dose inhaler) produces transient high plasma levels in healthy adult volunteers but has not been proven to save lives of young patients with anaphylaxis; therefore, it is not recommended as an alternative to injected epinephrine.

Antihistamines are not an adequate substitute for epinephrine, although they may be helpful in controlling urticaria and other ancillary symptoms and signs of anaphylaxis. An anaphylactic reaction generally follows one of three patterns: rapid progression (uniphasic), protracted symptoms (uniphasic) or initial symptoms followed by a relatively symptom-free period of up to 2 hours and then by respiratory symptoms or hypotension or both (biphasic). Even if symptoms are resolved completely after epinephrine injection, the patient should be taken immediately to the nearest hospital and monitored for at least 3 to 4 hours and possibly up to 24 hours. If symptoms persist or recur the patient should receive additional epinephrine injections every 10 to 20 minutes. A glucocorticoid such as prednisone (1 to 2 mg/kg) should be given. Oxygen, bronchodilators, antihistamines, intravenous colloid infusion and other supportive measures should be administered if necessary.

All patients at risk of a lethal allergic reaction to food should wear a MedicAlert bracelet listing the food antigens that may cause them to have an anaphylactic reaction. They should be repeatedly reminded that the keys to survival are complete
avoidance of relevant food antigens, including "hidden" food antigens, and, if a potentially lethal food has been ingested and symptoms occur, prompt injection of epinephrine before respiratory problems develop.

Table 1

Recommended management of anaphylactic reactions to food in children

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<tr>
<td>Obtain history to identify high-risk patients</td>
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<td>Obtain history to determine high-risk foods</td>
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<td>Confirm diagnosis through epicutaneous or radioallergosorbent testing</td>
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<th>Prevention</th>
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<td>Warn patients and their parents to avoid foods that trigger anaphylaxis</td>
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<td>Have patients wear Medic Alert bracelets stating sensitivities</td>
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<tr>
<td>Advise patients to carry injectable epinephrine (Ana-Kit or EpiPen) at all times</td>
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<th>Treatment</th>
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<td>Inject epinephrine immediately if symptoms develop</td>
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<td>Ana-Kit: 0.05-0.12 mL SC* for children weighing &lt; 12 kg, 0.12-0.25 mL SC for those 12-25 kg and 0.25-0.3 mL SC for those &gt; 25 kg</td>
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<tr>
<td>EpiPen: 0.15 mg IM* (EpiPen Jr) for children weighing 12-25 kg and 0.3 mg IM (regular dose) for children &gt; 25 kg</td>
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<td>Transfer patient to hospital and monitor symptoms</td>
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*SC = subcutaneously, IM = intramuscularly.

References


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**Allergy Section**

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**Principal author:** Dr. F. Estelle R. Simons, Section of Allergy and Clinical Immunology, Department of Pediatrics and Child Health, University of Manitoba, Winnipeg, Man.

This statement was developed by the authors, funded by the Children's Hospital Research Foundation, Winnipeg, and approved by the directors of the Canadian Paediatric Society.

**Analysis of text**

*The text was printed out and given to the subjects. It has a total number of thirty three clauses and five main ideas. Main ideas identified are given below:*

1. **characteristics of children at risk**
   - usually have a history of gastrointestinal or respiratory symptoms or of urticaria or angioedema, have asthma and are highly allergic to many substances

2. **high-risk foods**
   - Peanuts, tree nuts, eggs and cow's milk, fish, crustaceans, molluscs and soy. Even trace amounts may be "hidden" in cookies, cakes, cereals, candies or other foods.

3. **mechanisms of anaphylaxis**
   - specific IgE forms against a food antigen in a susceptible person, and subsequent exposure to the antigen may result in IgE-mediated activation of mast cells and basophils, followed by release of histamine, tryptase and other biologically active substances. Sometimes the mechanism causing anaphylaxis is unknown; like triggered by metabisulfites used as food preservatives or co-triggered by exercise.

4. **important aspects of diagnosis and treatment**
   - a description of the symptoms and signs should be provided, test all foods eaten before the reaction, and make use of tests available for testing IgE levels to food antigens in patients

5. **Prevention of the problem**
   - avoid the food that causes allergy, carry epinephrine injection always, prompt injection of epinephrine before respiratory problems develop, wear a MedicAlert bracelet, admit patient to hospital for monitoring even if symptoms are resolved completely after epinephrine injection.
APPENDIX I B1

PRE-STRUCTURED TEXT, FAMILIAR TOPIC
Improving the Accessibility of Your Web Site

### Introduction

Most organizations already have a Web site, and most of those sites were developed without considering accessibility. Thus most Web sites today have accessibility barriers that make it difficult or impossible for some people with disabilities to use the site. Some sites have several significant barriers; others have only a few minor barriers. Sites developed to meet Web standards such as XHTML and CSS usually have fewer barriers.

While implementing accessibility on an existing Web site may seem overwhelming at first, there are approaches to make the process more efficient and effective. This document provides guidance for fixing accessibility barriers in existing Web sites; in other words, repairing accessibility problems, or

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file://H:\FNLS appendices-KJ\texts\sites\Improving the Accessibility of Your Web Si... 7/12/2009
Analysis of text – Web Accessibility

This text has a total number of fifty five clauses, two main ideas and six supporting details. These are presented below:

Main ideas:
Accessibility barriers make it difficult for people with disabilities to use the site. Repairing such barriers will make websites more universally accessible. Repairing can be done effectively with the help of accessibility experts and use of right evaluation and repair tools that help perform an initial evaluation and identify barriers and repair them.

Supporting details:
Setting the Target: Many organizations use WCAG as a target for accessibility. Communicating the Status of Your Retrofitting Project: introduce an accessibility statement in the website describing the major accessibility barriers on your site and your commitment to fix these barriers.
Evaluating: identify all of the accessibility barriers by including people with disabilities in accessibility evaluation.
Prioritizing repairs: those that are easy to repair, all the high impact repairs, where many barriers can be overcome through a single page, template, style sheet, etc. and any elements that are the same across pages, such as navigation bars and footers that only need to be evaluated once, and high priority like home page, main pages, and frequently-used (high traffic) pages. Address harder problems later.
Optimizing Your Retrofitting: A qualified accessibility expert can save time and effort.
Distributing tasks: among different people based on their skills and other factors, ensure that everyone knows that accessibility is a requirement; validate the effectiveness of a solution before you implement it.
Optimizing Tools: Authoring tools are software or services used to create or modify Web sites, Evaluation and Repair Tools: that help determine if a Web site meets accessibility guidelines and help repair accessibility barriers.
Planning: help avoid creating new barriers and to continue improving the accessibility of your site.
Link types:
No. of links inside the text: 36
No. of links outside the text: 17
There is a table of contents whose entries are linked that provides structural assistance
The text has both explicit and implicit links:
Examples for link types used are:
Further details, explicit: Implementation Planning for Web Accessibility
Introduction, explicit: Introduction to Web Accessibility
Context, explicit: Essential Components of Web Accessibility
Example, implicit: scenarios of people with disabilities using the Web
Elaboration, implicit: different disabilities affect Web use
Definitions of terms, implicit: (WCAG), (ATAG), (UAAG).
Explanation and Example: How People with Disabilities Use the Web
Explanation and Instruction/ Guidelines: Preliminary Review, Quick Tips to Make Accessible Web Sites, Involving Users in Web Accessibility Evaluation
Details, zooming in, implicit: Involving users with disabilities
Enhancing, zooming in, explicit: Essential Components of Web Accessibility
Context, explicit: Developing Organizational Policies on Web Accessibility
Example, explicit: Legal and Policy Factors in Developing a Web Accessibility Business Case for Your Organization International Policies Relating to Web Accessibility
Reading: a cognitive process

Reading involves a series of interlinked cognitive processes. These processes are not inbuilt for reading. They cannot be as reading is only a very recent innovation in the course of human history, and thus we could not have evolved such a specific process in such a short space of time. Reading out loud is a more complex process the just normal, silent, reading. However, it is not a distinct process. Instead it involves all the same processes as reading silently, then this processing leads onto further stages of processing which are more speech-related.

Perceptual span

The ability to read is one that takes many years from childhood to develop into a skill that becomes really quite automatic, requiring little conscious effort to perform. There are many processes going on in the brain, but first, the words themselves need to be detected visually. When we read our eyes make very many short and quick movements across the text, called saccades. Our eyes do not just fixate on the features of the text, instead, we make use of parafoveal vision. This could be seen as "reading ahead". Studies, using equipment to track eye movements, have shown that we typically are looking about two or three words ahead when reading out loud. So we look over a span of text rather than at each word, or even letter, at a time. This is called "perceptual span". The size of this span varies depending on the text being read. If the font is bigger for instance, the perceptual span will be physically bigger on the retina, however, there is some constancy of size when the number of letters or words in contains is considered.

There are three types of perceptual span. Total perceptual span encompasses the whole area over which information is recognised. Letter identification span is the area from which letters are identified, whereas word identification span is the area from which words can be identified. Perceptual spans have a bias to the right, i.e., ahead of what is being read. Poltatsék et al. showed that readers of Hebrew, which is read from right to left, have a bias to the left in their perceptual span.

Neurophysiological basis of reading

Knowledge of basic neurophysiology can tell us what areas must be involved in reading out loud. Information is received at the retina, transmitted via the optic nerve...
Analysis of text – Reading: a cognitive process

This text has a total number of twenty nine clauses, three main ideas and six supporting details. These are presented below:

Main ideas
Reading involves a series of interlinked processes.
They are not built just for reading.
Reading out loud is a more complex process than silent, reading.

Supporting details
Words are detected by the eye making quick short movements called saccades.
While reading aloud we do not look at one word but using parafoveal vision we look ahead at 2 – 3 words. This is perceptual span.
Three types of perceptual span: total perceptual span, letter identification and word identification. This span is biased based on language features.
Areas involved in reading aloud: Information is received at the retina, transmitted via the optic nerve and the lateral geniculate nucleus, to the primary visual cortex. Processing occurs here and information is relayed to Wernicke's areas and Broca's areas, where more information processing occurs. Finally, information is relayed to motor cortex associated with producing speech sounds.

Rumelhart and Mc Clelland Interactive activation model: there are three levels of processing following from visual input; the feature level, the letter level and finally, the word level. These levels loop back. The connections between the levels are both excitatory and inhibitory.

Only deals with four letter words. Cannot explain priming.
Three possible routes of processing from reading words to saying them out loud, all three starting with a visual analysis system. Route one involves phoneme-grapheme conversion, which deals with simply converting spellings into sounds, then converts them into speech.

Routes two and three both involve the right recognition of familiar words. Route two goes on from there to employ a semantic system to associate the word with a
meaning, which is involves auditory association cortex and then associations in motor cortex to produce speech.

The third route skips the semantic recognition and goes straight to auditory and motor associations
To read out loud, the visual input needs to be processed by areas such as Wernicke's area, the primary areas for the comprehension of language. The output of this area leads to Broca's area, which coordinates neurons in the motor cortex to produce speech. Since there is more processing to read out loud than it does to read silently, silent reading is faster than loud reading.

**Link types:**
No. of links inside text: 67
No. of links outside text: 35
All links in the text are - Implicit, external
Description of link contents:
Most links provide word meanings, or explanations of words and phrases used in the text. Some links deliver meanings very different from the way the word is employed in the text. For example eyes, childhood, etc.
Some links open to pages that give a further choice of links. And these links are phrases with one or more words of the original word and therefore unrelated. For example, parafoveal vision leads to vision quest, double vision, field of vision etc. primary visual cortex leads to primary market, visual Perl, primary roof, etc.
Some entries are absurd: for instance, one of the entries for cell is - a character in dragon ball z, four letter word has entries like the novel The Blonde Woman, articles like “why most people are right handed” etc.
Some have misleading entries: 1981 is not a reference to the context but states several events that happened in that year.
Some give unrelated meanings: Priming talks about adding sugar to fermented beer, and other meanings, Mask - as used in computer science, Target - submariner slang, Memory - a novel, minute - minutes of meeting, etc.
Welcome to Web Development, a resource for Web content developers. In these pages, I present a process-oriented methodology for creating World Wide Web-based hypermedia works. I also include links to news, articles, and other resources of interest to Web developers.

My methodology is based on the idea that Web development can benefit from knowledge and skills in many areas and attention to six processes and six web elements. Key to this methodology is a view of the Web as a medium with unique characteristics and qualities. I base my discussion on my experience in Web development, Web revenue models, and on my previous writing.
Analysis of text – Web development

This text has a total number of twenty clauses, three main ideas and four supporting details. These are presented below:

Main ideas:

One needs to follow a process-oriented methodology for creating World Wide Web-based hypermedia, i.e., pay more attention to processes.

Since the web is a medium with unique characteristics and qualities we need to follow a separate process for developing these and not follow print text design methodologies.

Web development can benefit from knowledge and skills in many areas like technical communication and software engineering and move away from a traditional focus on just HTML, page layout or use of flash, etc.

Supporting details:

The designer/communicator by engaging in these six processes:

1. Planning: define target audience, purpose, objectives, and policies for information development and use.

2. Analysis: check technical construction of web with validation tools; evaluate information consistency and verify correctness of domain information.

3. Design: separate information into page-sized chunks; connect pages along routes of use and user thinking; provide information, context, and navigation cues; create a consistent look and feel.

4. Implementation: create an extendible directory and file structure; use HTML tools where helpful; use templates for supporting consistent look and feel; check implementation in various browsers.

5. Promotion: target publicity releases for general Web audiences, potential users, and current users; follow online community norms and practices; innovatively connect with users to meet their needs.

6. Innovation: continuously and creatively work for improvement to meet user needs; use testing, evaluation, and focus groups to shift and change web’s content as user needs change.
Develops these six sets of information/elements:

1. **Audience information** is a store of knowledge about the target audience for the web as well as the actual audience who uses the web.

2. The **purpose statement** defines the reason for and scope of the web's existence.

3. The **objectives list** defines the specific goals the web should accomplish.

4. The **domain information** is a collection of knowledge and information about the subject domain the web covers.

5. The **web specification** is a detailed description of the constraints and elements that will go into the web.

6. The **web presentation** is the means by which the information is delivered to the user.

This is essential since the web is a medium with unique characteristics and qualities.

*Characteristics*

- **Unbound in space/time**: Information provided on the Internet is available every day, around the clock, and around the world (pending network operation).

- **Bound in use context**: Web-based hypertext fosters associations among works through links, giving rise to networks of meaning and association among many information sources that may be scattered across the globe and written by many authors.

- **Distributed, non-hierarchical**: The Web's technical organization as an application using the Internet for a client/server model influences the disintegration of user focus on a single outlet for experiencing content.

*Qualities*

- **Multi-role**: The Web's users can not only be consumers of information, but may be providers as well.

- **Porous**: A web doesn't have only one entry point--any of its pages might serve as the starting point for a user. The user may find that different pages in the web give them the best viewpoint into the information for their needs. Other users may enter a web at a certain page because of a keyword
result is that designers can't depend on (nor should they expect) users to follow a particular starting point and path through a web.

- **Dynamic:** The Web is characteristically, notoriously changeable, with new technologies (servers, browsers, network communication) as well as new content being introduced continuously.

- **Interactive:** Web developers need not only "broadcast" information, but they can elicit feedback from users (through electronic mail to links and forms) or provide Web-based threaded discussion boards, or Java-based interactive applications.

- **Competitive:** Because of its distributed characteristic and dynamic qualities, the Web's content developers face extreme competition for user attention.

**Link types:**

No. of links outside the text: 30 and more

No. of links inside the text: 9

There are both external as well as internal links. All within text body are implicit.

Implicit, internal, overview: overview article
Implicit, internal, details: the processes.
Implicit, internal, Details, zooming in: processes, elements
Implicit, details, zooming out: characteristics, qualities

External, about the author, implicit: Web development, Web revenue models, my previous writing

External: Web Design

Some links are repeated: e.g., Processes appear 3 times under various links.
APPENDIX I C2

SELF-NAVIGATING TEXT, UNFAMILIAR TOPIC
Politexts, Hypertexts, and Other Cultural Formations in the Late Age of Print

by Nancy Kaplan (nakaplan@ubmail.ubalt.edu)

This article is a hypertextualized and extended version of the keynote address delivered at the Second Domains of Literacy Conference at The University of London, 1-3 September 1994.

I have twisted the language to contrive the title of this essay because I want to interrogate the future of literacy, both its electronic formations (if indeed these differ from its pre-electronic ones) and its social origins and effects. Hence: I am using the unpronounceable locution e-literacies in two different ways:

• first, to mean those reading and writing processes specific to electronic texts (by texts, I mean a whole range of digitally encoded materials -- words, sounds, pictures, video clips, simulations, etc.);

• second, to signify elite-racies as in those socio-economic elites whose interests might be served by electronic literacies of one sort or another, or who might come to be elites by virtue of their ability to shape electronic literacies.

There are a number of ways to read this essay, none of which will exactly replicate the text of the talk I gave. Take chances with your choices.

One note: a significant feature of hypertext environments is their capacity for inclusion, their construction of a vast and necessarily unfinished collage of documents striving to represent the knowledge (and the agon) of a discipline.
APPENDIX I C2
SELF-NAVIGATING TEXT, UNFAMILIAR TOPIC

Analysis of text – Politexts, Hypertexts, and Other Cultural Formations in the Late Age of Print

This text has a total number of twelve clauses, two main ideas and four supporting details. These are presented below:

Main ideas:

Literacy (e-literacies) has two meanings in the electronic age: reading and writing processes specific to electronic texts and to signify elite-racies as in those socio-economic elites whose interests might be served by electronic literacies of one sort or another, or who might come to be elites by virtue of their ability to shape electronic literacies.

Social, political, and economic elites try to shape the technologies we have so as to preserve their social, political, and economic status. They try to suppress or seek to control those elements of electronic technologies uncongenial to that purpose. The degree to which they are successful in controlling the development and use of electronic texts will define the nature and the problems of literacy in the future.

Supporting details:

Some people see eliteracy as good and the other as threat: networked computers in the classroom will promote interaction (Tuman) or they will worsen isolation by taking away all opportunities for group learning and cooperation (Postman).

The term "Politexts" refers to multiple variants of a text: As many people contribute to a shared text base, there is always the chance that no one version contains a "one, true version."

The fear here is pollution or debasement: how will we know good words from bad, authorized versions from corrupted ones?

Then politexts indicates the radical (root) instability and promiscuity of inscriptions digitally encoded, stored, retrieved.
A third meaning: since all textual systems involve politics or power relations determining who can become literates and high literates and who will remain illiterates, semi-literates, or functional literates and these power relations arise from social arrangements rather than technological ones.

The radical instability of electronic writing may well threaten those power relations so far guaranteed by the culture of print. So, on the one hand it may not be good to have multiple variants of the same text, but on the other hand this very feature might make literacy accessible to all.

**Link types:**

No. of links outside the text: 8
No. of links inside text: 8

All links are implicit, and mostly internal. There are four internal and four external links.

Outside text, external links: Link to the journal site, link to the author’s site

Internal, implicit, introduction: reading and writing processes specific to electronic texts, socio-economic elites

But both link to the same node.

Internal, implicit, build internal connection, argument or presents a specific issue within the topic: chances, your choices

Implicit, overview, internal: Way In Way Out

Explicit, internal, context: Academic dispute

Explicit, internal, explanation or further details of the topic, an extension of the introduction: What's At Stake

Explicit, internal, word meanings or (explanations): Definitions of Strange Locutions
Given below is a list of topics of texts you will be required to read. Each topic is followed by the beginning paragraph of each text. Read them and determine topics that are familiar and those that are unfamiliar for you.

Part 1


The origins of the term and the reasons for its popularity in the industry began with the "logical business rules" community founded by Ron Ross and Terry Moriarty using the name "The Business Rules Group." Their perspective on business rules is quite similar to what a traditional systems person might call a "system requirement." Of course, the term business rule is not focused on what the system needs to do but rather what it needs to support. However, this is what good analysts have always thought that a system requirement meant.

2. "Postcolonial literature": Problems with the term Code Word: Lit

"Postcolonial Literature" is a hot commodity these days...But there seems to be a great deal of uncertainty as to just what the term denotes. Many of the debates among postcolonial scholars center on which national literatures or authors can be justifiably included in the postcolonial canon. Much of the discussion among postcolonial scholars involves criticisms of the term "postcolonial" itself. In addition, it is seldom mentioned but quite striking that very few actual authors of the literature under discussion embrace and use the term to label their own writing.


At Knowledge Praxis, we define knowledge management as a business activity with two primary aspects:
- Treating the knowledge component of business activities as an explicit concern of business reflected in strategy, policy, and practice at all levels of the organization.
- Making a direct connection between an organization's intellectual assets — both explicit [recorded] and tacit [personal know-how] — and positive business results.

4. Fatal anaphylactic reactions to food in children *Code Word: Fd*

Patients at risk of dying from a food allergy usually have a history of gastrointestinal or respiratory symptoms or of urticaria or angioedema immediately after eating a food to which they are allergic. In a case series, six young patients with fatal anaphylaxis after food ingestion and seven others with near-fatal anaphylaxis not only had a history of reactions to food but also had asthma and were highly allergic to many substances. Their parents or caregivers had failed to appreciate the potential seriousness of the food allergies. Four of the six fatal reactions occurred at school.

5. Introduction to instructional design and the ADDIE model *Code Word: IDA*

The most widely used methodology for developing new training programs is called Instructional Systems Design (ISD). It is also known as Instructional Systems Design & Development (ISDD), the Systems Approach to Training (SAT), or just Instructional Design (ID). This approach provides a step-by-step system for the evaluation of students' needs, the design and development of training materials, and the evaluation of the effectiveness of the training intervention.

**Now identify 2 topics (mention the code word) that you are very familiar with.**

**Topic 1:**
How familiar are you with this?

- Very familiar
- just familiar
- only heard about it

How do you know about this?

- read in newspapers/ books
- part of education
- part of work requirements

Any other
Write down 3 – 4 sentences on what you know about this.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Topic 2:
How familiar are you with this?

Very familiar    just familiar    only heard about it

How do you know about this?

read in newspapers/ books  part of education  part of work requirements

Any other

Write down 3 – 4 sentences on what you know about this.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Identify 2 topics that you are least familiar with in part 1.

Topic 1
Write down 1 – 2 sentences on what you think this may be about.

________________________________________________________________________

________________________________________________________________________
Part 2

6. Change Management *Code Word: CM*

Here are some rules for effective management of change. Managing organizational change will be more successful if you apply these simple principles. Achieving personal change will be more successful too if you use the same approach where relevant. Change management entails thoughtful planning and sensitive implementation, and above all, consultation with, and involvement of, the people affected by the changes. If you force change on people normally problems arise. Change must be realistic, achievable and measurable. These aspects are especially relevant to managing personal change. Before starting organizational change, ask yourself: What do we want to achieve with this change, why, and how will we know that the change has been achieved? Who is affected by this change, and how will they react to it? How much of this change can we achieve ourselves, and what parts of the change do we need help with? These aspects also relate strongly to the management of personal as well as organizational change.
7. Reading: a cognitive process Code Word: Rdng

The ability to read is one that takes many years from childhood to develop into a skill that becomes really quite automatic, requiring little conscious effort to perform. There are many processes going on in the brain, but first, the words themselves need to be detected visually. When we read our eyes make very many short and quick movements across the text, called saccades. Our eyes do not just fixate on the features of the text, instead, we make use of parafoveal vision. This could be seen as "reading ahead". Studies, using equipment to track eye movements, have shown that we typically are looking about two or three words ahead when reading out loud. So we look over a span of text rather than at each word, or even letter, at a time. This is called "perceptual span".

8. Global Warming Code Word: GW

The phrase global warming refers to the documented historical warming of the Earth's surface based upon worldwide temperature records that have been maintained by humans since the 1880s. The term global warming is often used synonymously with the term climate change, but the two terms have distinct meanings. Global warming is the combined result of anthropogenic (human-caused) emissions of greenhouse gases and changes in solar irradiance, while climate change refers to any change in the state of the climate that can be identified by changes in the average and/or the variability of its properties (e.g., temperature, precipitation), and that persists for an extended period, typically decades or longer.

9. Service Oriented Architecture Code Word SOA

Einstein made that famous statement many decades ago, and it's still relevant today for building superior software systems. Unfortunately, as anyone who has been in the IT industry for long can point out, far too many software systems have failed Einstein's test. Some are made too simple to carry out the duties they are supposed to perform. Others are made too complex, and the costs of building and maintaining them have rocketed, not to mention the nearly impossible tasks of integrating different systems together. It seems that reaching the right level of simplicity is more like a dream than reality. Where have we gone wrong? We don't have to look far to find the
problems. As we build more and more software systems, we see similar situations and patterns appearing. Naturally, we want to reuse the functionality of existing systems rather than building them from scratch. A real dependency is a state of affairs in which one system depends on the functionality provided by another. If the world only contained real dependencies, Einstein's test would have been satisfied long time ago. The problem is that we also create artificial dependencies along with real dependencies.

10. Improving the Accessibility of Your Web Site Code Word: WA

Most organizations already have a Web site, and most of those sites were developed without considering accessibility. Thus most Web sites today have accessibility barriers that make it difficult or impossible for some people with disabilities to use the site. Some sites have several significant barriers; others have only a few minor barriers. Sites developed to meet Web standards such as XHTML and CSS usually have fewer barriers.

11. Effective Therapies for Autism and other Developmental Disorders
Code Word: Aut

During my medical training, I learned that autism and its related disorders were essentially incurable, a finding certainly confirmed by our dismal experience. Our autism clinic was an exercise in diagnosis and no treatment; what little we did for children was largely ineffective. While we had come a long way from Bettelheim's refrigerator mother theory of autism (in which a cold, unresponsive mother was the cause of the condition), we were stuck in a genetic-biochemical hypothesis allowing no possibility for cure or improvement. We were confident that the unknown genetic defect was buried deep in the biochemistry of the brain.

Identify 2 topics that you are very familiar with in part 2.

Topic 1:
How familiar are you with this?

Very familiar just familiar only heard about it
How do you know about this?
- read in newspapers/books
- part of education
- part of work requirements
Any other

Write down 3 - 4 sentences on what you know about this.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Topic 2:
How familiar are you with this?

Very familiar
just familiar
only heard about it

How do you know about this?
- read in newspapers/books
- part of education
- part of work requirements
Any other

Write down 3 - 4 sentences on what you know about this.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

37
Identify 2 topics that you are least familiar with in part 2.

**Topic 1:**
Write down 1 – 2 sentences on what you think this may be about.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

**Topic 2**
Write down 1 – 2 sentences on what you think this may be about.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Part 3

12. **User Navigation Pattern Discovery** *Code Word: NP*

Broadly speaking, 'Web Mining' has been defined as applying data mining techniques on web data to discover knowledge. Pattern discovery is the key component of the Web mining. It converges the algorithms and techniques from several research areas, such as data mining, machine learning, statistics and pattern recognition.

Some researchers have applied mining techniques on the Web logs maintained by the servers so as to discover user access and traversal pattern [Zaiane 1998, Yi 1999, Cooley 1997, Zarkesh 1997, Chen 1998]. For instance, Han et al. [Zaiane 1998] have minded information from web logs by implementing a MOLAP warehouse containing web log data and mining information off it. Krishnapuram et al. have developed new robust fuzzy clustering algorithms and used them on web logs, where
as Shabhabi et al. [Zarkesh 1997] have developed clustering algorithm for user navigation patterns. Other researchers have interpreted web logs essentially as text files and applied phrasal mining techniques to the logs [Lent 1997] [Ahonen 1997].

13. Article on Web Development Code Word: WD

Welcome to Web Development, a resource for Web content developers. In these pages, I present a process-oriented methodology for creating World Wide Web-based hypermedia works. I also include links to news, articles, and other resources of interest to Web developers. Methodology & Resources

You can read an overview article of my Web development methodology or start in on a more detailed hypertext version by reading about the processes.

My methodology is based on the idea that Web development can benefit from knowledge and skills in many areas and attention to six processes and six web elements. Key to this methodology is a view of the Web as a medium with unique characteristics and qualities. I base my discussion on my experience in Web development, Web revenue models, and on my previous writing.

14. Politexts, Hypertexts, and Other Cultural Formations in the Late Age of Print
Code Word: Kap

I have twisted the language to contrive the title of this essay because I want to interrogate the future of literacy, both its electronic formations (if indeed these differ from its pre-electronic ones) and its social origins and effects. Hence: I am using the unpronounceable locution e-literacies in two different ways:

- first, to mean those reading and writing processes specific to electronic texts (by texts, I mean a whole range of digitally encoded materials -- words, sounds, pictures, video clips, simulations, etc.);
- second, to signify elite-racies as in those socio-economic elites whose interests might be served by electronic literacies of one sort or another, or who might come to be elites by virtue of their ability to shape electronic literacies.
15. Gurteen Website Structure Code Word: Gur

Introduction

One of the purposes of the site is to stimulate thought about perceiving the world in new ways. To an extent this is about making new connections - associating one idea with another idea - connecting the seemingly unconnected.

With this objective in mind, the site has a structure that has been purposely designed to provide a rich browsing experience that hopefully allows you to make those new connections. You should not only be able to easily find information on this site but tumble unexpectedly into other areas of interest. The structure is briefly outlined below.

Site Structure

Each "web page" is a document. Each document may be one of several different types that each has its own specific content.

Identify at least one topic that you are very familiar with in part 3.

Topic 1:

How familiar are you with this?

Very familiar just familiar only heard about it

How do you know about this?

read in newspapers/books part of education part of work requirements

Any other

Write down 3 – 4 sentences on what you know about this.

____________________________________________________

____________________________________________________

____________________________________________________

____________________________________________________
Topic 2:
How familiar are you with this?

Very familiar  just familiar  only heard about it

How do you know about this?
read in newspapers/ books part of education part of work requirements
Any other

Write down 3 – 4 sentences on what you know about this.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Identify any topic that you are least familiar with in part 3.

Topic 1
Write down 1 – 2 sentences on what you think this may be about.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Topic 2:
Write down 1 – 2 sentences on what you think this may be about.
Please answer the following questions. All answers will be completely confidential. Thank you for your participation.

1. **Personal details:**
   
   Name:
   Gender: Male      Female
   Age:
   Marital status:
   Educational Qualification:
   *(Please mention from UG and above. Also mention the subjects you majored in.)*
   
   **Qualification** | **Subject(s)**
   ----------------|-----------------|
   UG:             |                 |
   PG:             |                 |
   Post PG:        |                 |
   Any other:      |                 |

   IELTS score:
   Reading component score:

2. **Work details**

   Current position:

   Area of expertise:

   No. of years of expertise:
3. Details regarding knowledge and use of computers

How familiar are you with computer technology?
Not very  Average  Fairly well  Very well

Do you have access to a personal computer?  Yes  No

How many years have you been using a computer?

How many hours do you access a computer in a day?

What all do you do with a computer?

Mark the number of your choice against each item given below:

Reading articles, reports, bulletins, journals etc. for work purposes
Writing for communication like using emails, blogs, mailing lists, etc.
Writing for work purposes, create an HTML document
Reading for pleasure like news, fiction, non-fiction, poetry, blogs etc.
Others, please specify:

4. What do you think of reading electronically vs. reading print?
Write your answers in terms of ease, motivation, clarity of purpose, facilitating learning etc.
What do you think of writing electronically vs. writing as a paper and pen exercise? Write your answers in terms of ease, motivation, clarity of purpose, facilitating learning etc.

Any further comments on reading/writing online?
This questionnaire was used to assess the subjects’ level of expertise in, and impressions and attitudes to reading documents via two distinct media – on paper and on-screen.

**Circle only ONE answer for each question.**

1. When I read in English, ____ of the time I am reading on-screen (Internet, PC, etc.)
   * Most of the time
   * Sometimes
   * Rarely
   * Very rarely

2. When I read in English, ____ of the time I am reading on paper (print outs, books, magazines, etc.)
   * Most of the time
   * Sometimes
   * Rarely
   * Very rarely

3. In general, I prefer to read __________.
   * on-screen
   * on paper

4. I think it is easier to read on-screen.
   * strongly agree
   * agree
   * disagree
   * strongly disagree
5. I think it is easier to read on paper.
   * strongly agree
   * agree
   * disagree
   * strongly disagree

6. When I read on-screen, I remember more information.
   * True
   * Sometimes true
   * Not correct

7. When I read on paper, I remember more information.
   * True
   * Sometimes true
   * Not true at all

8. When I read on-screen, I understand better.
   * True
   * Sometimes true
   * Not true at all

9. When I read on paper, I understand better.
   * True
   * Sometimes true
   * Not true at all
APPENDIX III A
METACOGNITIVE RESPONSE SHEET

Part 1

1. Ask yourself these questions to formulate your thoughts
Did I understand this section? If yes, what did I understand?
How did I understand this section? What are some of the things I did to understand the text?
E.g. Translating, making notes, guessing, relating to what I already know, looking up elsewhere on the net, re-reading
What did I not understand in this section? What did I do, if any, to solve my problem?

2. Answer these questions while reading texts whose topics are familiar
What do you know about this topic?
What in the text tells you it is related to your info regarding this topic?
How do you relate what you know already about this to what you are reading now?
How did you remember what you just recalled? What in the text prompted it?

3. Answer these questions while reading texts whose topics are unfamiliar
What did you do to understand the text?
What in your mind (background knowledge) helped you understand the topic?
How did you remember what you recalled? What in the text prompted it?

4. For multimedia, if any.
What did you do when you saw the MM aid?
Did the picture/visual/aural aid help you understand the topic? How?
Was it an obstacle? Why?
Did you try to understand it?
What do you think of MM aids?
How do you think they should appear in the text?
Part 2

1. If there is a link you decide not to click then answer

Why did you not click this link?

2. Answer these before clicking on each link

Why are you clicking on this?

What do you expect to find here?

Why do you think so? / What in the link makes you feel so?

How is this link going to help you?

Do you think this is going to make your understanding of the text easier/ better?

3. Answer these after visiting the link contents

Did you get what you expected to find there?

If no, what was unexpected?

Explain the relevance of the information you found in the link, i.e., is the link required or not?

How has its contents helped you?

Do you have any suggestions to make the link better?

4. Answer these after visiting all the links in the text or page

Could you say something more about the nature and efficacy of links in this text? Is the presence of links/ having to visit links influencing/affecting your comprehension?

How?

Can you give me a more detailed description of how you follow the links when you read? How do you make order out of the multiple links? What effects your decisions?

What in the link prompts you to feel that it is the next link to be visited?
APPENDIX III B
RETROSPECTIVE INTERVIEW QUESTIONS

Focused general questions

Do you like reading/writing with the computer? (Also ask some probing questions to elaborate the response).

Can you tell me how you prepare for reading/ writing with the computer?
Can you tell me how you read/ write with the computer?
Have you ever lost your way while reading online?
Why do you think it happens?
Do you recommend others to read on-line in hypertext?
How do you like reading in hypertext environment?
Have you ever learnt from hypertexts? Is it easier than print texts?
Do you use strategies like underlining, highlighting, making notes etc. while learning for print texts?
What strategies replace such strategies in a learning-from-hypertext scenario?
APPENDICES IV A1 TO IV A6

Transcripts of think aloud protocols generated by one HL2 reader are reproduced as Appendices IV A1 to IV A6. Transcripts of the corresponding free recalls and summaries appear after every TOL transcript.

The order of presentation is as follows:

IV A1: print, familiar
IV A2: print, unfamiliar
IV A3: pre-structured, familiar
IV A4: pre-structured, unfamiliar
IV A5: self-navigating, familiar
IV A6: self-navigating, unfamiliar

The colour coding followed for categorising various clause types in the TOL protocol is:

Blue – surface clauses

Green – textbase clauses

Red – situation clauses

Yellow highlight – metacommments

highlight – evaluations

Italics – observations and notes made by the researcher
TOL transcript

No, but this is not a new term, it's a very old term, I think it reflects the date, 2002. Yeah... it... this whole BUSINESS RULES concept started sometime around 2000 I think.

Business Rules is a difficult term to define, different people have different meanings. Many different groups use the term all with different meanings, and different fields have their own single meaning. Some community founded by somebody... that's the reason for its popularity. It was called the Business Rule Group, which an entire field... Eltern originat... I think the idea behind the logical business rules community... this was started by Ron Ross, and others at the heart of this group is the Business Rule Group. Business Rules for them is the same as system requirement. For them, the meaning of the term was what would call system requirement. Business rule does not mean what the system should do but what it has to support. But this is the same as what most people think system requirement means.

System requirement. Originated from the concept of system requirement. How are they relating, system requirements when you say is for entire system, actually you can say function requirement. I think there's some problem, the author hasn't understood it perhaps... it has to be function requirement, so you have an entire system, and BUSINESS RULES are extracted from the system.

What is mentioned in the text is already done, I told u this is an old text.

A rule like, see in a shopping mall or something. If they use a rule like... Every customer who purchases over $5000 can be 5% discount for the next three purchases of over $2000. Rules like these need to be represented in a machine readable fashion.

What is this “The other contribution” so this that was mentioned earlier is their contribution? What is it?
Oracle members like David Hay and Bonnie O’Neil were members of The Business Rules Group and then it is easy to share knowledge thru papers and conference and presentations. This is how they kept touch. Even now no...we have things communities like the TWIN and all...there is a lot of sharing of info and happenings and findings being discussed.

The main intention of this group was to decrease the cost of gathering and implementing BUSINESS RULES. This was quite essential especially in cases like a rule enforced in an application code and if the rule changes, one needs to find and change that code...it is very expensive.

In some cases some quantity of the rules have always been placed in data in tables to allow users to maintain the rules without the intervention of an IT professional.

A reference table is also a BUSINESS RULES. The term “business rules” has a slightly different interpretation at Dunbar. A BUSINESS RULES that users will understand what their system will support...

In summary, the contributions of the Business Rules Group were that they popularized the term—that’s correct. We have discussed this already.

And concept of business rules, proved that it was possible to build a precise rule grammar — yes, though nobody could use it, I think we should take a look at this even if it is not usable, see it can tell us a lot right? Why did it fail etc.

In the IT industry there are several definitions for the term business rules. The term has been around for some time now. Business rules is considered the same as systems requirement by many people, what a system needs to support is important here. This is first done by collecting and coding the BRs of any organization. After this with the support of users, system level requirements are arrived at. Various taxonomies were also arrived at. The BRIM environment consists of BR taxonomy, but the number of rules in large systems will be like 1 million and all, it is very unmanageable. But we cannot reduce the
number of rules in a system, all we can do is make gathering of rules more efficient. So for this many people tried creating trigger based rules environment. If a rule is placed only in an application code we will need the help of an IT expert to change it every time the rule changes, but keeping them in data tables allow easy changing as and when needed. But like we said earlier, the term means different things for different people, in the Dulcians approach users should be informed about BR in a language that they understand.

**Summaries**

A particular group called BR group coined the term BR and was responsible for making it popular also. The term has got multiple meanings, each one to suit a different context. For members of the BR Group it is the same as system requirement, not what the system should do but what it should support. For database professionals it means a structural requirement that is difficult to enforce in a database or process flow.

At Dulcian both these together are described as “business rules”.

In order to collect BR, first we try and understand the functions of a system and from this we try and come up with the BR of the organization. After this we sit with users to determine the set of system level requirements. This is, however what all good analysts have been doing, though nobody called it BR.

One of the system analysts, originators of the term, attempted to create a taxonomy of business rules. But because of its basic complexity most people didn’t understand it and so couldn’t use it.

Another output of this group is the papers they have presented and this made the concept more popular.

A third one is their demonstration of structuring and parsing of BRs of any organization; even though there may be millions of rules we can think of storing them all by parsing them. This will also reduce the cost.

There are lots of problems. This group also pointed out that to make rules understandable we need to talk about them in a language that is easy for them to understand, and so people are advised to use text and images, pictures and diagrams to represent the requirements.
APPENDIX IV A2

Think aloud protocol, free recall and summary produced while reading print, unfamiliar text.

TOL transcript

Think aloud protocol, free recall and summary produced while reading print, unfamiliar text.

Obtain history to identify high risk patients and history of high-risk foods, but what is history? I think this is like heavily medical terminology...

Then there's testing through radioactive and all epicure testing for diagnosis... something like this.

The last paragraph doesn't have many points... I mean I don't understand.

Reads aloud...

Some patients see a food that causes anaphylaxis, like peanut and others... how to present... say that if something isn't a food causing allergies, that should not be a precaution...

Okay.

Now I will go to the first paragraph... this paragraph says... What is it expressing... a deaths caused my what... I think about all the allergies... it's increasing each year.

Patients who have a problem with certain food are people who have a history of gastrointestinal... histories of many problems... And so many of them have asthma also.

Some of them who were studying in schools... have real bad attacks of food allergies, fatal anaphylaxis after food ingestion, digestion? No no digestion... then why didn't they say so? Must be just eating food, food consumption itself? (guessing word meaning) ok so in these people it was found that they also had asthma and they had allergies to very many food items. I, but still two things matter.

And most of these kids die even if they have been prescribed epinephrine, one reason is they don't have the injection with them when they developed the symptoms... two was their teachers and others did not give it in time, they didn't think it was serious...

Some food substances are more allergy causing than others. There are things like peanuts, eggs, milk, fish, eggs, etc. Soy also, I thought food allergy is mostly from old or bad food, we know stale food, roadside food that is unhygienic etc. Even small traces of these foods can cause allergies in patients.

This is talking about another kind. It is not just stale food sometimes even fresh food for... can cause allergies in some people with a history of this illness.

IgE is formed against a food antigen in a susceptible person. One IgE is formed as a reaction against food antigen...

Against food, eliminates the unknown word and uses only food and then he understands...

And then when the same thing keeps coming in, as we eat the same thing several times, then this IgE causes the activation of histamines...

Sometimes we don't know what causes anaphylaxis. So that means IgE formation is one mechanism that results in food allergies.

I correctly diagnosed where the food reactions occurred from. What food caused it? We need to identify the food, we should take some of the manufacturer, lot number, ingredients used to make it etc. There are medical allergy specialists and allergy clinics who can identify food allergies this tests. They can detect this test if IgE levels are raised, higher levels have occurred due to food substances, allergy to food.

If there's food left over take that also, the diagnostic should be able to identify specific antigens in these food items with the help of certain tests.

Preventive, how do we prevent these food reactions? What is best is completely avoiding these types of food, but this might be difficult for many people and sometimes they are eating something similar to what they ate before...

Okay, that might be difficult because the problem is only an allergic reaction and then allergies like both asthma and other allergies to food...

So parents and other consumers should be given a list of things as they appear on lists, covers, packets and what they really are in common language. See, in some places this will work, but if you cannot read and all then how will you know what is in it? But yes, we can tell them why they should read these lists carefully and also in schools that this is a serious problem. We can have qualified people at places like schools and shopping malls so that questions can be answered. But what about poor people? How can we reach out to them? But is it so common?
First thing to do is administer epinephrine. Right at the first symptom of itching, swelling, etc. and symptom. This was a reference.

Epinephrine is available as self-injectable, pre-loaded like Anakits or spring-loaded like Epipens.

Advantage with Anakits is it is slightly inexpensive, it can be used for multiple doses, but we can use it only with smaller children, less than 12 kgs. And it is not good enough for self injection, but then children weighing less than 12 kgs won’t be able to administer injections themselves no? It is difficult if one has to give an injection oneself, see like these diabetes shots I have seen some patients do, that’s also adults but.

Okay, I must say... getting injections should be given at necessary.

See, now this table makes sense. Here are three things that we should do. One, wear medic-alert bracelets, two, avoid food allergy causing substances, and three, have epinephrine right at the onset of allergy symptoms...

Free recall:

This text is an article... it is about fatal anaphylactic reactions to food in children. It says there are too... it first says there are, deaths are increasing due to fatal anaphylaxis. In many cases it has been children and many of them died at school. Though they were prescribed epinephrine they could not be saved because they were not given this medicine at the right time.

There are also some food substances, some of them are more allergic... allergy causing than others; some of them are peanuts, milk, eggs, fish, etc. etc. these things have to be completely avoided. We need to be careful in even unintentionally eating them. This can also be the result of wrong listing on packages. Like egg may be written only as albumin, but someone who is allergic to egg will suffer due to this. In some cases... yeah then also whey, this can cause confusion in people who have allergic to milk and then if they buy these things they will suffer.

One thing we can do for consumers is make a list of names of things, like these different names used by manufacturers and what they really mean. Give these lists to consumers.

Next what I can remember is diagnosis. We need to take the patient and the food that caused it to correctly diagnose all the aspects. Any leftover food should be taken. There are specialists who can run a series of tests to identify all the various factors.

Main way to treat this is through epinephrine injections. They come as pre-loaded and or spring loaded. One is good for children and the other for older people. And one is less expensive. And injections are more effective than inhalations too, I think. But what is important is that we need to remember to give the injection when the symptoms start occurring: symptoms are itching and swelling of mouth area, redness of lips, etc. Epipen and Anakits are two brands of this epinephrine injection. And it also says that MedicAlert bracelets should be worn.

Summary

This is text talks about fatal anaphylactic reactions to food in children. Food allergies are very dangerous but they can be cured if we give proper treatment at the right time. That is the key idea of this text. If you want to save someone who is suffering from food allergy you need to give immediate medication. This medication is an epinephrine injection that comes as self-injectable or what another person can inject for you. Once the medicine is given we need to get the patient to a hospital for further check ups or more medicines to be administered.

Food allergies can be caused by substances added to food like chemical preservatives and also from natural food like peanuts and milk. The first symptoms when you eat them are itching, swelling of lips and inability to breathe. An injection called epinephrine can be given at this time to reduce this and stop it from getting aggravated. Though it has some side effects its benefits far outnumber its disadvantages.

Reading all the ingredients of things while buying is also essential. And one product might occur in multiple forms. So parents can also be given a list of such things and names. One needs to be really careful also when eating out. We must tell children who suffer from food allergies not to eat what other kids or friends offer.
APPENDIX IV A3

Think aloud protocol, free recall and summary produced while reading pre-structured, familiar text

TOL transcript

Most organizations these days have websites but the article says most of them were developed without considering accessibility.

But what's accessibility? It's to do with making it accessible to a lot of people. So how making sure so many people view your website, increases the traffic on your website. I know it also means people with disabilities should also be using the websites so making them accessible for these people. So what is this talking about.

So how a physically disabled person can be made to see a website. If you have lost a limb you need to know how to use the computer first no? before viewing a website? No. maybe we are assuming that these are people who are good with computers, like the basic coordination like using mouse and all... they must be already familiar with these activities...

Those that have followed the HTML or CSS usually won't have many problems to correct, but others have a lot of errors to be remedied to make them accessible to all people.

Ok, what if they are blind? Do they have solutions for this? What else can cause... require changes what changes are to be made before it can be made accessible to all?

Let me see... I need something more about accessibility, scrolls down the article talks of step-by-step procedures to change an existing site. Scans and then Let me click this link first Reading the basics

Retrofiting your site means... I read it somewhere before... goes up to check here, makes use of phrases like 'in other words' and 'or' it means requiring a site that already exists... see after building a site then you go back and look at it. I think this going back is called retro fitting... let me check the dictionary and see...

Ok, it tells us about how to go about doing it. Set up a team with representatives from each department, get support from higher ups in the admin also. It also says to conduct a survey to assess the need to make the site accessible, how to select software tools, how to provide training etc.

So first is to select a sample page or pages, while doing this we should remember to take pages that are most visited by people like the homepage, then pages with tables, figures, images, diagrams etc. homepage okay even if it is most visited, but why do we need pages and all? What will happen to images? If a blind cannot see it then we need to change it too... maybe read out and see, maybe we can have audio files to sort this out. But how much of this is possible? Audio files can help but to some extent not. It specially in cases like study reading and all, how much of graph and all can we explain through sound clips.

It's for people with disabilities, they can also be made to read online. Visual, auditory, physical, all kinds of disabilities. Sometimes it is also for... web accessibility is also for people without disabilities.

Web accessibility means making Web sites flexible to meet different user needs, preferences, and situations. So then this helps problems like slow Internet connection. See sometimes if the net is slow and all who will want to wait for all these links to open? Different people will read for different information, same site but want only some parts of it. So how to highlight that? And then some people will want more pictures or some want more data like that, so how to help them read only these. So this means making a site really accessible, for both able and disabled.

See things like these are not good, I don't like them, it says "getting started" "understanding the basics" and it is actually a collection of links, so we need to compulsorily go to those links, this can be actually supplementary and they should give a brief para about the relevant info... see how we need to go

Way more accessibility is important to gives unprecedented access to information and allows people with disabilities to access the information on the sites. Yet in many countries, there is a lack of accessibility standards and guidelines and this is why most sites are not accessible. The lack of accessibility standards and guidelines is a major factor in the lack of accessibility of websites. Therefore, the need for accessibility standards and guidelines cannot be overstated. Some

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people can be mouse challenged also no? laughs no that's true. old people or see some movements you can't have with your hands then... so especially in cases like this we need to do all with the board and not the mouse. So yes that's another disability, old age, broken limb, etc. Web technologies can help us overcome accessibility barriers to print, audio, and visual media... used separately they might have their own problems, like we just saw earlier? Blind people cannot see and then we might have to use audio for that? Is it possible to have a Braille surface for the computer monitor? So then we use a combination of many of these media, like multimedia in a web. Especially with the web 5.0 and we are already thinking of defining space and movement with the web, so many more such disabilities can be much more easily overcome through...

There's nothing important to tell you this about specialized browser is also the same... Many organizations use W3C as a target for setting getting accessibility. For example, one organization's target is to meet W3C version 1.0 checkpoints.

I won't read this now, I will go back to the earlier one, the second one, see generally it's not very advisable to click on links on links, you will only go on non...

The 10 quick tips is also very useful, tells us things we can do like using graphs, giving descriptions of the purpose of each visual, giving audio transcripts of audio clips, etc. This is good for blind, use of summaries, consistency in formatting, use of headlines etc. These cut out confusion, why even for people with no disabilities we need these things? Sometimes some people understand better with pictures than with words, long texts... these are all things you could straight away use. So always look for brief texts like this. Cut out the theory, long stories...

Using people with disabilities to help evaluate helps developers to understand how such people use the web, so then we can see what exactly we could do to help them, try out the solutions also with them. I would say so... then we can check the efficiency of the changes we made...

Once you have decided to do things and your plan is in place then it should be made known to everyone, what it's doing? about increasing accessibility, what it's plan to change? and how's it going to make the site better. These things should be communicated thru the website. We don't do this, okay we have something brief like this site is under construction, but this is something more than that, it's not close down the site for this not makes notes of each point.

And this link can be put as the prominent link in the homepage itself so that people can read it quickly, or at least, they can be aware of the changes that are being made. About evaluating the accessibility issues, one can at the beginning itself identify all the problems of the site. Alternatively one can identify the most glaring problems and repair them first. Anyone would do it this way, not we can't repair all the problems at the same time, so always prioritize.

Optimize one's knowledge, always learn new things, this is good for a developer, and these days it's so easy, also anything we want to learn is always readily available anywhere there are bullets he looks at the heading and skips to the bullets.

Then we come to optimizing processes. In the office, making use of resources, people available in the best possible way. So things like that require content knowledge, how do we make text in a link clearer, this will need the help of a content person, a writer who knows minimum authoring tools knowledge too.

Whereas there will also be other changes required for which we need a programmer. Basically it means a lot of people, and a right skill set based on the abilities. I guess we need to talk here these too.

So we need to understand the hurdles, decide on how to overcome them and make the site accessible, and then zoom in on the right or best person who can do this. So it we distribute then it becomes quicker. And this is how it happens, not just web development. But everything... you have heard of team work, collaboration and all, they all work like this, these were the things that is the philosophy. Then tell them all how important it is make sites accessible, make it clear what we doing when we are doing, and then proceed to do it efficiently.
These days everyone has a website, even companies and also people, and anything you name cos this is a good way to promote yourself. This is like a good marketing strategy; we need websites that can be accessed by all sections of society, all kinds of people with all disabilities and all. So that is why we need to discuss the implications of web accessibility. On the other hand if we have used XHTML or CSS then there will be lesser barriers. Web accessibility means to make a website accessible to people with auditory, visual and hearing … impairments, also people with other handicaps like physical, deaf and dumb, hands movements problems etc. how do we make a site accessible to all these people. Like see there could be people … students who cannot hear, with a hearing disability but who have joined an online course that has a lot of audio lectures as part of its methodology. And another example is this person who does online shopping but has color blindness. Like that… so what to do for them...

How to make this process easy is what they are telling us in this essay. There are many components that work together to make web accessible to people with many disabilities. Mainly there is the content of the text. Then there are other things… aspects like tools for evaluation and building, the developers who build these sites, etc. the thing about this is that if we take care of making one component accessible then we can be pretty sure that the others are also… also follow suit. So when… when users want a feature, developers will try and give them, so they will ask the tool to have it, and when the tool has it developers will try and deliver it to users through content, and so on and so forth.

Some… several companies think of using the WCAG as a target for accessibility. Another thing that decides the target is why we are doing this in the first place, retrofitting no? Sometimes it is cos customers have pointed out something and want a change, sometimes in certain countries we have legal requirements. So there are many reasons. For any such activity to take place effectively we have to do a
lot of things... first we need to identify the problems, there r lots of sites that will help us do this. Then also we have accessibility specialists, experts they are in... identifying problems. Secondly we will have to tell the users how we r changing, what we r changing, etc. this will... can come as a statement. Then we go about work distribution, we have to get the required tools, required experts, distribute jobs among teas, decide deadlines, etc. just like any other team work...

One more thing is how to prioritize the areas with barriers, which areas to repair first. One thing is the effort for repair, if we can achieve maximum changes by making minimum changes, like change one stylesheet or templates, and several pages' format will be changed in one go, then do such things first. Another thing is pages that have heavy impact, like front page, main page can be altered first.

Once these things are done then try it with people, real people with disabilities who will be using them and see. And also we need to be always monitoring the site, to make sure that new additions also conform to the earlier changes made, that new updated pages have no new barriers.

Summary
Web Accessibility is a recent issue that has taken up much interest of most web designers. Improving Web Accessibility involves making design and other changes to make a website accessible even to old, blind, physically disabled people, those suffering from color blindness, students who are deaf, etc. For starters one could use the WCAG as a target. Changes can be made also when customers ask for it.

There are many interlinked components that work together to make web accessible to people with many disabilities. Some of them are content, evaluation tools, developers, browsers, etc. they are interlinked in that when we change one, another is compelled or required to change.

Making one’s website accessible involves training of required personnel and procuring of software, if needs be. But before this one needs to assess the efficacy of the existing staff and software and understand the various drawbacks of the existing website. There are several software and repairing tools available in the market to suit each one’s needs. With a strong policy statement in place and efficient web designers one needs to re-do high impact but easily changeable pages first. These can also be the welcome page of a site or pages that visitors mostly frequent. Various factors interact to make a site accessible; these include content, developers, tools, web browsers, etc. all these have to work in tandem to make a web site accessible. Among the many things one could do include: using scripts of audio records, describing video contents, providing captions for images, using easy-to-understand content format etc. Once this is done we need to review the efficacy of the changed site for instance by switching off images we can check if texts appear, etc. we can also observe how the disabled work with the site, if the changes have made interaction easier. With on-going monitoring and inviting user feedback in addition to developing policies that are in touch with international policies, we can ensure that new barriers are not introduced.
APPENDIX IV A4

Think aloud protocol, free recall and summary produced while reading pre-structured, unfamiliar text

TOL transcript
I am not sure if I know... can understand the meaning of this text... It says reading is a cognitive process, meaning it is an activity of the brain, reading perception, reasoning, judgment, etc. checked the dictionary
Or, it’s not a simple process, it consists of several sub-processes, cognitive processes that govern the way we think, you know, when we read and think and all how the brain works. That’s good, how did they see and study all that?
These processes are not made only for reading, we started reading very recently, so it must have been in us for a long time, but we started using it recently, for reading.
Rereads
See this means it takes a really long time to evolve a cognitive process, it can’t be developed in a short span of time.
The summary says two very different things: one is that these mechanisms of the brain are not just because for the sake of reading alone, because they have been around for many centuries but reading developed only recently...
Skims and locates the last para... more processes to read silently and so... we can also read more when we read silently... let me see...
is this cos, has it anything to do with... writing developed only recently, some centuries ago? But people used to draw pics on cave walls no? if someone has to understand that wouldn’t that also be reading?
Okay so that’s why this cognition part was around, but recently got into reading activity, these same processes, it’s the same that are required for reading and understanding also.
The second point it makes is that reading aloud is more complicated than reading silently, both have the same processes but then at the end the former moves on to speech related processes.
Right from childhood we r learning to read and it takes many years for it to develop and become an automatic, unconscious kind of activity, see like now when we r reading we don’t even know how we r doing it, it becomes such a smooth process, so I think this is what we are looking at now.
The first step of this process, it’s a series of activities and the first one is when the eye looks at the word and detects it.

Saccade is the small lateral eye movements that allow us to see (direct link contents) I click on parafoveal vision it leads to other links, I don’t understand this, lemme check perceptual and then I will see if I need to google. What silly links, I think I need a wiki or google.

The eye does not look at each and every word, it looks at a series of words, it looks at a lot of words that are ahead of the word we reading...
This might be for readers who are experts no? young kids don’t read like this, ok this is for those whom reading has already become an unconscious activity... let me see how my eye moves...
This is called perceptual span, and this depends on the size of the text, if the font size is bigger then span is also bigger...
There are three types, word identification, letter identification and total perceptual span for recognizing of information.
In the Perceptual span paragraph, reading takes many years to develop, we start reading from childhood on... It becomes automatic after several years of developing the... it. Then we don’t need much effort to perform it.

People reading in English will have a bias of their span to the right and in Hebrew, Arabic etc, will be biased to the left. True no? see when I read now my eyes are taking in a lot of words... my perceptual span is towards the right, its taking in words ahead from the right side.

People... When reading aloud, the eye does not look at the text, but it looks at the machine... So even though I can read like this, I can’t actually read it aloud, I don’t read like that...
only when reading aloud? What is the difference between saccades, perceptual span and parafoveal vision? So then he goes to links.
After reading from a couple of sites he makes these statements/predictions.

I think the movements of the eyes are called saccades. Movements of the eye, think like a see what we all see to read.

The article allows us to read several words is called parafoveal vision, so when we have this kind of thing we're able to take it more words in one go. See for instance when we read a text. When I read a text and look at the word at a time, Not the fact... let me google this parafoveal...

The span of text we cover, this looking at each letter and word, the span that each reader covers is called perceptual span. This is the first part of the text, how much we have covered. That is correct, it is to do with the text levels, so if the text is in large letters like a bigger font, then the span will be physically bigger on the retina eye. Makes it easier to read eh!

However there's some constancy of size when the number of letters is considered...

There are 3 types of perceptual span... While reading one thing you are thinking of something else.

Oh I think it's not to do with a text at all. See when I read "total perceptual span encompasses the whole..." then I was visualizing a text in my mind, the pic of a text is here and then am trying to relate it to this. Then I see no it won't work with word identification, letter identification etc. why?

Area from which letters can be identified, words can be identified and all are not on text no? I think it is the brain itself? Or the eye?

Perceptual spans are also biased, like when we read English we read... we have a bias towards right, and for readers of Hebrew it is seen to the left. I think it is in the eye itself.

When we read about icon comes at the retina and then goes thru the optic eye nerve to a nucleus, this part, this organ, the part... might be behind the eye right? From there it goes to the visual cortex, may be the first part sub... behind the eye components.

I remember some diagrams of eye that we used to have in our science text books in school. I think there was a cortex, or Oh! No no. I think it was part of the brain diagram. It has to be somewhere in the brain cos it says processing happens here and then from there it goes to other parts like Wernicke and Brocas areas.

And from here to those parts that are involved with producing speech sounds, this is the motor cortex.

Computational model... but its not explained here in this link?

Okay, some people have already come up with such a model, it's called an interactive activation model. This is proposed by Rumelhart and McClelland. Scientists huh? Reading scientists?!! Do they have such people?

There are three levels of processing following from visual input, letter, word levels, and sentence level.

No, no... re-reads... feature, letter and word levels...

There are three levels of processing, after we receive through the visual input.

Feature level identifies features of letters, letter level identifies letters and the third is word level, to identify words. This takes letters identified and builds words out of them.

These are the three levels, there's hierarchical, they are not... interactive.

For it to be an interactive model one needs these levels to interact, they should loop back, be interconnected. Gestures with hands, intertwining fingers... That's right. Only then the model can be interactive, into the way it stands it is not a hierarchical model.

There's interconnection among these levels, and these are both excitatory and inhibitory. It excites and inhibits.

I think when the visual input has a vertical but it excites all letters with this feature and inhibits other feature. Like horizontal or orthogonal coming up.

Then at the next level it excites all words with such letters and strips things, but then these letters from one another. Hmm... and if it loops back it is from the verbal level with that feature activation, but there's nothing at this level... brain.

But the drawback of this model was that how are four letter words read is the only thing they end explain, not longer sentences. But mebe it can explain also.

I didn't understand how, if connections are made, seems the model can be expanded.

So the model... i.e. does this explain how we can read longer sentences to be able to read it...
Like let me see. if and writes

Milk

PULP

In addition to this thing abt letter position, there is one more, let me just read that again ...

But this model has no capacit) for explaining this sort behavior. But if connections are strengthened it might be able to explain them.

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How do people perform during priming tests is what they can't explain thru this model. How priming works is explained with conditional learning. Hebbian learning.

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How do people perform during priming tests is what they can't explain thru this model. How priming works is explained with conditional learning. Hebbian learning.

But this model has no capacit) for explaining this sort behavior. But if connections are strengthened it might be able to explain them.
It consists of several other cognitive processes. Cognition was always around, meaning people even cave men had cognition may be not as developed as ours now, but it was there, but reading as part of our cognitive activities came into existence quite recently. From childhood we are reading and after so many years it becomes automatic. When we read what is on the page enters our eyes, and there is a bias. When we are reading English... for readers of English and Hindi and all there is a bias towards the right, from left to right is what we read no? but for readers of Arabic, and Urdu also I think, no, I don’t think Urdu is correct in this context... there is a bias to the opposite side, from left to right. And eyes also take in many words at a time, this span also helps in quick reading. If we have a bigger font, then span is also bigger, no am not sure about this...

Another point to make is, is important is, reading aloud is far more complicated than reading silently. And it is also more speech-related.

Reading is a very complicated process and it takes many years from childhood to develop it into an automatic mechanism. While reading aloud the eye recognizes the words it is reading, it takes in several words at one go and not one word each. This is called perceptual span and is done with the help of parafoveal vision. From here it goes to the brain and then it goes to another area that is associated with producing speech sounds.

The interactive-activity model argues that after visual input reaches the reader, there are 3 levels of processing that takes place. The feature level that makes sure features of letters are noted, letter level that puts together these features and makes letters out of them and word level that creates words out of these letters. But one drawback with this model was that it could not explain priming, the test where two words are shown one after the other in quick succession and the subject has to recognize the second one.

There are three routes of processing that can happen when we read words and read them aloud. The first one converts spelling to sounds and to speech. The second one recognizes familiar words and associates it with a meaning and from there it moves to speech producing processes. The third route also recognizes familiar words but skips the meaning association stage and goes straight to speech production.

There is also something about pictures and all, use of pictures that will help us read better. Like for instance when we know, don’t know, don’t have a picture for a word like sasquatch then we cant really understand the word... what is the argument here, am not sure. But then sasquatch means a big foot monkey kind of animal, not really existing I think. First I had thought it is a fruit like squash.

Summary

Reading is not a single process, it consists of many processes that are interlinked. This is a cognitive activity. Several processes work together while we read but the number of processes involved when we read silently is lesser than the number of processes required to read aloud. And it is this very nature of reading aloud that makes it slower.

Many models have been proposed by researchers to explain the process of reading. Explaining this is difficult also because we are not aware of the process of reading that we follow, it is an unconscious process that has been developing from our childhood. There are many processes involved, starting with the eyes that have to recognize what they are reading. This is assisted by techniques like saccades, parafoveal vision, perceptual span etc. that allow the eye to take in more than one word at a time.

Information that comes in via the eye is processed by Wernicke’s area and from here it goes to Broca’s area, this is what helps in production of sound, meaning this leads to reading aloud of words. This is why they say reading aloud is slower because it involves more processes.

And when we are reading ahead we also are biased depending on the language we are used to reading. The interactive activation model explains that the process of reading consists of 3 levels – the feature level, letter level and word level. At every level the connections are excitatory or inhibitory. So when the eyes encounter a vertical bar, all features with a vertical bar are excited and those without this are inhibited. But one criticism that this model faced is that it could not explain the process of priming.
APPENDIX IV A5

Think aloud protocol, free recall and summary produced while reading self-navigating, familiar text

TOL transcript

Cloud computing for the corporate data center... tool box for IT. Hey how did i... what am I doing here? Lemme get bak...

Okay, here he is talking of process oriented methodology for making websites and host them on the internet. Hypermedia also.

Hypermedia means?... okay hyperlinks that will go to pages with lot of other media, audio, video, etc. yeah I think it means websites that have, employ multiple media to put up info, it will have images, sounds, animations, etc. so this article must be about this, creating a site with all this. And following a process oriented methodology.

Process oriented will mean focusing on the process, the process of making a website, oho yeah mebe as opposed to a product oriented methodology. Isn’t this what this is all about? All the different steps and all the processes...

Overview and details are both available. I will click on both and read overview first. See I don’t click on open in new tab, cos I like to close the windows as I finish reading them and this is not possible if I open in new tab.

Scrolls down overview is that an overview? Its toooo long

How to develop content for the www. Content development. That will be like developing content and also making the complete website, including hypermedia, he said no already? So iske liye process oriented... but yeah it’s not always content developers who will be looking into the other things too, so it’s for not just content development team I think...

So many options are available these days for web development. But developers might be... tend to focus on things like HTML, page layout, or even how to make use of the latest flash and other technologies.

But December says developers need to develop a broad perspective; a more process-oriented approach. This will help them better express, design, and articulate the content.

Yeah I think its something like a little less focus on tools and all no? not on how to make it, no, like not on what all we can use to make a website flashy, but a more detailed analysis of the processes and all that affect it. Maybe things like who is the reader and all.

Developers also need to pay attention to the characteristics and qualities of the Web.

So we have to take people who are aware of the features of the web and then how we can create a deep impact website.

This methodology has 6 parts, has to have 6 sets of information. We need 6 sets of info for this kind of process oriented methodology.

One is audience information, info about the people who will read the web. Yeah this is significant. Things like who will read the web will help us make site better. More reader oriented, and so focus on process.

Then we need a purpose statement that tells us why the site is being made. Then the objectives that it the goals of the web.

We also make all these, how is his different? Or is it that we are already following this chap’s methodology? Let me see, we also list the goals and try and get info on all these things... and this is done differently...

We get interaction information, information about the, about what it deals with the basics, feedback, and also getting to the basics, depending upon who is the target audience.

Then the, the content as well contains the website and the information on the website...
We make use of questionnaires and all. We also ask the respondents to answer them while using a website, browsing. That's more of an accurate pic, I see. I think all that should come under this link. I think it's more or less the same.

By planning. In this we collect audience info, set web purpose and decide and finalize objectives etc. We need to think all this a lot. Even I agree; see we cannot immediately rush into always making things doing things. Analysis is the verification of the correctness of the facts. We can do this with observation. We need to observe a sample population using our site and then decide. This is good. See, this is also like that web accessibility topic not where we make use of disabled people to understand their needs and movements better. I think this kinda needs analysis is always... always works better.

Then the design part when every part of the web, its look it feel is designed. relation among pages is set, etc. here is where we fix the feel it look, identify one look. be consistent, like we insist on having this logo run on all pages and also make sure of the fonts size and type. I know even minor things like these matters.

Then comes implementing this idea, the files are to be generated, maintained and saved and stored and all and then you promote it, mainly to do with marketing and all. one another set up is the online community. We could always have this as a marketing strategy. We sometimes pull ads in our own sister concern's sites also. So it's like doubly good for all. Okay, do we need to have different ones for current users, potential users and all? Or the same one? That makes sense but you do a press release etc. to promote the release of the website a flash that runs across on other sites, make not competitors ...

That's right, when you promote it... it should be based on customer needs, like you tell them why it is important for them, how it is catering to their needs, that's the best marketing technique and it works. But at the same time it should appeal to general users also. It's not very difficult when you start doing it. But that's how you connect.

and after this we need to innovate; keep checking and analyzing the site and look for ideas to improve, look for new software that will help make the site better etc. keep making the site more usable see, where we can bring in the usability discussion. Not just creative and unique ways, we know sometimes looking for, running after creativity might lead to difficult and sometimes senseless changes. Some images that may make sense only to us cos we're looking at it as being very creative, but then after we host it it realize it makes no sense to others. So let's also start looking at making it more accessible to all.

**all this is by clicking on links and visiting the corresponding nodes.**

See in the overview you don't need so much. The only difference then is, processes and elements on separate nodes are linked, and this is like too much way off info, we may not want to go there at all. See, sometimes I think additional info only makes the existing info more complicated.

In the elements page looks for only new or additional info.

See, the main topic part isn't, one can always use the diagrams. The elements and processes are interconnected.

And also they can change in each other, so if one is lacking, then another can take its role. Like a good objective statement can make up for a poor purpose statement.

It says that audience info can never be complete, it keeps changing over time.

The developer needs a purpose statement. It can be general or specific. I think a specific one helps more, no maybe general makes it more far-reaching. I think we need both.
Like there are certain characteristics there are certain qualities also. Why are these two different? Can't they go together?

Users of the web can be consumers as well as providers of info. I know, I know... so this is all, that about dynamic websites, you know those that keep changing and those that are interactive. We have already looked at this I think.

It is interactive. We can get feedbacks, write to the author, seek corrections, etc. This also makes the earlier point stronger. You see where the user is a provider of info. This is possible because the web is interactive. But should it stop at just providing an email id. This is something we have also been grappling with. This is something I think we should be discussing. How’s this methodology going to help us in achieving these things?

The images are also good, the web as a part of a long chain of evolution. And how it is different from other media.

See, this is what causes confusion. Earlier also we had all those processes and elements, each one linked and at the same time the same page also has further info about each. So what’s on the linked node, and what’s on the page? And now these characteristics are twice explained in the same page.

Then there is Web Media Qualities. There are also some qualities of Web media that users and authors may or may not exploit.

Features of the Web that are optional and may occur in Web... So a Web can be... Multiple...? You mentioned different... and dynamic...? Because of its distributed characteristic and dynamic qualities, the Web’s content developers face competition for user attention.

Yeah, now I understand this, earlier they had mentioned right? We need to try our best to catch the reader’s eye, what’s on our site that makes it stand out and scream for attention. There are lots of things employed for this... everyone comes up with something or the other, like if we have a meeting coming up, an international one or so, then put in a flyer and you get real catchy pix and very short, brief brief... words to capture it all. Cos not everyone has interest and time to read all no?

And yeah porous... single large page won’t also work, like I said earlier no? Time problems, so looong pages are not going to work, instead have linked nodes from a short simple page. We say one screen space only, so that nobody needs to scroll. All the rest should go as links. This is meant by multiple entry points, depending on your interest you enter that... only that part of the page... site.

I think I got enough info now. What’s on the main page has all been read and understood, everything else is supplementary.

Free recall

It’s about web development, it is projecting a new methodology... but what was it called... content development methodology? To best present the information we want to convey through a website the developer needs to have a broad understanding of its features... of the web like, one is that it has unlimited information which is available anytime of the day to anyone anywhere in the world,... and it is distributed. The writer mentions various things we need to take into consideration when we are developing a website, this involves information about the audience who will use the web, a document...
that lists the aims and objectives and clearly mark out the purpose of the web. Someone also needs to
provide a complete and accurate description of the various technical features of the web and how it will
look like in the end, including the placing of hyperlinks, its design, etc. and several other features.

**Summary**
A web as a medium is different from paper or any other. We need to keep the unique qualities of the
web in mind when we think of creating websites. Before creating websites we also need to understand
the 6 characteristics and 6 elements of web. These help us develop better websites. These
characteristics involve understanding audience, setting up of objectives and deciding the purpose of the
website, planning how to present the site and its contents, implementing the plan and later analyzing if
the objectives have been met, deciding when to release the new site and promoting it, and finally, but
very importantly continuously assessing the efficacy of the site and with the help of new technology
and all, one needs to keep changing the site as user needs change. This new methodology promoted is
called the process oriented approach.

And from these we get several elements of info like audience info, and develop a purpose statement,
make an objectives list, and then decide all the web presentation specs like how to present info to the
audience etc.

Many features of the web like its vast amount of information collected from all over the world that is
available to readers 24 hours a day, helps us create websites that are always innovating and changing,
and allows readers to read a text from any part, and also contribute to the information given.

Then there is also planning, on how to go about collecting info like audience of the web, their purpose
for visiting it, etc. what are some tools and questionnaires they can use for this, etc. then we have to
verify it for its accuracy and see. And then before releasing a new look website we need to generate
publicity, do a press release, or send out flyers, or flash in the existing one, the website I mean etc.

The webs also have a certain, specific characteristics, we need to consider this also. Like it is
interactive, it is dynamic, it has multiple entry points, etc. In fact any page can be a potential entry
point for any reader based on the purpose of visiting the site.
APPENDIX IV A6

Think aloud protocol, free recall and summary produced while reading self-navigating, unfamiliar texts

TOL transcript

Think aloud protocol, free recall and summary produced while reading self-navigating, unfamiliar texts

But what is politexts? I think the text will talk about that. This is part of a talk, a speech that the author gave somewhere.

What is politexts, am not sure, is it about politics and texts? Let's see. Late age of print...

Okay, twisted the language, so politexts is not really a word...

Okay she is cooking up her own words to mean what she wants to say. Another one is e-litacies.

This means two things, one about the reading and writing processes, that we do when we are using electronic texts, this can include images, pictures, sounds, video, audio everything... this is E-literacy.

And the second one is... this means people whose interests is served by electronic literacies or those who become elite only they can use electronic literacy means?

Who are the first... am not sure whose interests are served by electronic texts... (rereads the text) people who are socially and economically higher than the rest, ok, the electronic texts are accessible to these people right? Maybe earlier, but now. Yeah even now there are some sections who don't know much about these things...

See it appears like a disorganized text but it has some order, every where this symbol is put we have some additional info ...

A significant feature of hypertext environments is their capacity... construction of a vast and necessarily unfinished collage of documents striving to represent the knowledge. As yet, no boundless writing space exists, so I have had to try to create my own simulacrum of a textual domain... oh this is about this not the of the the writing mechanism.

See, academic dispute didn’t mean much, some debate between people and all, so I wil go straight to the issue. But before that I think I will read the definitions... but does not read it.

Might now I get it. Both and Tuman think it is good to have computers around while Tuman and Postman think it is a bad thing. I see this has an extended text, a context, clicks on it but its making it more difficult... but why are postman and Tuman put as opposite parties, I thought they were both saying its not good to have computers? Tuman says classroom studies move away from their focus on the text to focus on conversational nature of studies.

Postman says computers are almost like print, print makes learning individualized but with the teacher around there was still stress on oral, oracy. But now with computers it is going to disappear completely. Why? Cos teachers r not needed in, when learning with computers? Ok so both are lamenting the disappearing of orality, the one on... goes up to check out what was mentioned of Tuman earlier Tuman says about the coming in of another kind of conversational orality, and postman says more into specifice kind of instruction will take the place of orality.

Ahhl! Why is there so many differences between people who belong to the same class? Same argument class? The author says it’s because none of these people looked at the social factors. So I wil close this cos this is the same page Stakes that came up with what at Stake as well as academic dispute and go straight.

I won’t look at define some terms cos I already have that I think and anyways I haven’t come across several new terms that need an explanation.

Better questions is only about how politics is part of all technologies of writing... I think way in and way out will tell me a pic of the whole text. Let’s see.
These people are socially, economically, politically powerful... so literacies are influenced by these sections of the society, they decide how much literacies should be allowed to grow...yeah I think I understand, even in India this happens no, especially in rural sectors...

When I click problems of literacy I go to definitions, so I think it's time I read this.

I didn't understand the first paragraph, am not rereading it either, you know it's like one of those typical literature stuff... so I read further below.

Keep rereading it.

Yeah it can also mean multiple variants of the same text, and here the problem will be whose is the right version, that's right, it's difficult to find the original, or the true version of many articles. It happened with me too, I was referring something thinking it's the original and then I checked the source and I found it was a version that someone had uploaded on his site with his comments on the article.

But print had guaranteed some kind of stability to the power equation, and electronic medium can't guarantee that.

Hmm... there's different kinds of hypertexts reads the whole page and no one does a TOL.

Hypertexts come as links on texts, some of them can't be printed, some of them have overviews, many of the structure of the text on them. This makes reading easier.

Some of them have other restrictions like only if you have read a certain part you will get access to the other parts of the text, like stories etc., didn't this is why cannot be printed.

Other cultural formations include things like the email, point-to-point communication, bulletin boards, many-to-many connections, the web, etc. all these have reduced the distance and time taken between communicating agents.

And unlike telephone and telecomputers, these are more lasting. It lasts longer than the meeting itself.

And the record is also different, it's like transcripts of court hearings etc., such texts have many writers, many participants of the talk as many writers, so these texts are authoritative, now does it matter?

And it says these are still developing...

The brief statement of the argument, couldn't this have gone earlier?

Oh I have already read this, it says there's different people thinking of electronic literacy differently. I know that Human post is a start. Relate diff parts of the text. Some say it's good to have computers around, some think it's bad.

But the main argument is that there's a certain section of the society that powerful who control the development of these tools and they try to keep it under control so that others will remain illiterate or weak literate.

And these tools will develop only as much as these people allow it to develop. This will affect the society.

Problems of literacy but it is not talking about problems of literacy, I would have liked to know more about this though, I think it should not be called this, but, terms defined.

How tools came to be is not an interesting section, cos it has no direct relation to what I am reading.

Free recall

The presence of hypertexts... and also politexts of hypertexts... anyways the text is about hypertexts and the electronic medium in the late age of print. How growth of electronic texts and spread of electronic texts, also termed as politexts is determined by social factors. Also when we have multiple versions, whose version is right, copyright problems, etc. There is this word coined by the writer e-literacies, to explain how literacy works in this late age of print. First it means literacy specific to electronic texts, i.e., how someone does reading and writing using the electronic medium. The second meaning says this is specific to the elite section of the society, only the elite can use the new medium.
And they use it for their own benefit only, not making it accessible to the common man thus keeping them illiterate.

There are so many people who think it is good to promote the use of computers, while naysayers like Tuman think one needs to curtail the spread of computers, all because it will not be good for the spread of... it all means to say that the development of electronic literacy is largely dependent on various social factors. Yeah, I remember, some of them think loss of oracy will happen if computers spread in their use. And still others fear that the individual will get more and more isolated, u know with no teachers, no peers, etc. learning is going to become a very lonely affair.

Summary
What is literacy? In this age of electronic information, is literacy different? Several people say that it is good to have computers while several others disagree. Many people feel that it is going to erode the basic conceptions of literacy. For so many centuries we have placed emphasis on the need to learn together, communal learning. With the introduction of the personal computers learning and other such activities will become more personal and isolated. The author also feels that it is a certain section of society to further their power over others, the weaker section, who try and control the new modes of information technology.

The author is trying to understand the future of literacy in the electronic medium through this text. For this purpose the author has coined a word called ‘eliteracies’ meaning two things: the reading and writing processes in the electronic medium and whether this is the exclusive right to a certain elite section of the society. The tendencies of developing of electronic texts depend on the elites of a society, people who are economically, socially or politically powerful. In order to maintain their supremacy they control technologies and preserve it for their own development. This will affect the development of literacy development among the masses.
APPENDICES V a1 TO V a6

Transcripts of think aloud protocols generated by one LL2 reader are reproduced as Appendices V a1 to V a6. Transcripts of the corresponding free recalls and summaries appear after every TOL transcript.

The order of presentation is as follows:

V a1: print, familiar
V a2: print, unfamiliar
V a3: pre-structured, familiar
V a4: pre-structured, unfamiliar
V a5: self-navigating, familiar
V a6: self-navigating, unfamiliar

The colour coding followed for categorising various clause types in the TOL protocol is:

Blue – surface clauses
Green – textbase clauses
Red – situation clauses
Yellow highlight – metacommments

highlight – evaluations
Italics – observations and notes made by the researcher
APPENDIX V a1

Think aloud protocol, free recall and summary produced while reading print, familiar text

TOL transcript

You didn't group all the rules together... there was a big debate... there are many kinds of different types or rules for different industries, different requirements.

The origins of the term and the reasons for its popularity...

Logical business rules community founded by Ron Ross and Terry Moriarty...

the origin of the term and the reason for its popularity.

BUSINESS RULES means not what a system has to do, explaining what is supporting... this is the same as system requirement.

Any system analyst will first of all try to decide... come up with a list of things that a system needs to accomplish. This is done by collecting and confusing BUSINESS RULES of the organization... Then after this they sit with other needs and come up with system level requirements.

We too do like this you know, we also have an expert... So then a BUSINESS RULES approach is something that good system analysts have been doing for years.

But this community also brought in a lot of new things also. It wasn't just a renaming of old things that was done by them... They came up with the first taxonomy of BUSINESS RULES.

It was very complex. It was difficult for people to represent BUSINESS RULES using these grammar. Any grammar is complex no? English grammar also see how difficult it is no? for everyone... too many rules are there... but we represent everything using this English grammar. I think we can. So are there problems with BR grammar?

There is BRIM environment... support 100% of a system's business rules...

How information from the Business Rules Group find its way into the Oracle database community: Some people, members of The Business Rules Group made a lot of paper presentations and so Oracle community became aware of all this and provided the intellectual foundation for structuring and parsing the business rules of an organization – yeah, this is what I was saying, let's take a look at how this is done... it will be interesting no? yes, that was the last point made here.

The database community has been working towards the development of the “business rules approach.” For Oracle database professionals BUSINESS RULES means... they assume that the database already exists and the business rules to be enforced are actually data rules... and these cannot be easily represented within an Oracle database...

It's just giving 5 types of approach, one is this database thing, one is this other type of BUSINESS RULES community.

Database professionals created many trigger-based rules environments supporting several rule pattern types

Start Date is less than End Date and other similar rules some of the business rules those that are temporally volatile, and decrease the cost of gathering them.

Even the “lowly” reference table represents a business rules approach.

The values in a reference table articulate the rule...

Generic modeling is also another business rules approach. In this also some BUSINESS RULES are stored as data and same can easily change them.

These can be easily changed so costs associated with application code changes have come down to an extent. However there are other types of rules that need to be extracted if the definition of business rules started in the community to be successfully implemented.

Ok, this right, now I get it why it was called system requirement. In the earlier days... it was like for the entire system. You see how it all evolved then. Am not sure about this though...

The term has different interpretation at Dulcian:

There are two reasons for gathering business rules... as a communication vehicle for users to understand what their system will support... to generate the system

At Dulcian, this type of requirement is termed an analysis requirement

When Dulcian says a preferred customer, the question is who is a preferred customer. But I think the problem is solved today when we use if customer transaction > 30000 then discount 10%.
Free recalls
I am not clear because when the text is saying the term is new, I don’t agree with it. The term was more popular with a group started by Ross and Moriarty. Ross also introducing the first taxonomy of business rules. System requirement for them was not very different from what was thought by earlier other specialists, it means what a system should support. The taxonomy was very difficult for people to understand and it was very very long and also very complicated. Then there is also BRIM environment evolves 100% supporting of business rules... and also repository, repository must be manageable. One Business Rule is Start date must be less than End date. Renaming of old processes is how business rules was called.

Summaries
Business rules means different things for different people. In The Business Rules Group it is meaning business level requirement. Systems analysts approached a project by first trying to understand what the system need to accomplish. Through collecting and codifying this is done. Then analysts sit and work with others users and arrive up with the actual system level requirements. Then business rules approach is called renaming of the same old process used for many many years.

Database professionals also construct many trigger-based rules environments supporting many types of rule pattern types. This is helping us all to decrease the money we spend by doing gathering and implementing business rules. Otherwise always going to the application code to change the code is expensive. So some rules are placed in data in tables to make changes when we don’t need an IT professional.
APPENDIX V a2

Think aloud protocol, free recall and summary produced while reading print, unfamiliar text

TOL transcript

This protocol was conducted by TOL (text on line) at this pace. Each subject was presented with a print passage.

Patients dying of food allergy usually have a history of gastrointestinal trouble, or respiratory problems... or urticaria problems immediately after eating food.

This is about children's food reactions, that food reactions. It is a medical article I think. Characteristics of children at risk, nowadays. As well food, mechanisms, diagnosis everywhere... mechanism is what happens inside our body I think.

In a case of young patients with a case of food poisoning died.

Many of them died at school because their parents were not around. Although half people had self injectable medicines, epinephrine they still died. They didn't have them available in the school and so they died.

Some foods greater threat than others, peanuts and all and susceptible patients...

Most frequently these allergies are caused by cow's milk, milk sauces, eggs, fish, etc peanut almonds cashews also.

Description of symptoms of all foods items... there are many many tests and we have good qualified doctors who will do this in a hospital. One can use many tests like epicutaneous, not intra tests.

Mechanism causing anaphylaxis. Is mainly IgE. is one substance. Mechanism is about an IgE and other things like cells and all.

Diagnosis, for any food reaction, food description... manufacturer and all relevant information. IgE levels can be detected with tests like epicutaneous and also lots of allergy specialists are there.

Skips paragraphs

Next section is about food that causes, some allergies are more harmful causing than others. Like peanuts, milk, fish, even some amounts of these things can cause allergy to people. To people who have a problem with these food items.

The patient must strictly avoid the food. Some peanuts is avoided for life.

Completely avoiding peanuts is difficult for many people. 60% of people always eat peanuts.

Patients and their parents should be provided with written lists of terms. So many terms that we don't know are there. Causes, testing... this is for who...

The best way for prevention is strictly avoid all foods that are causing allergies to patient.

Secondly, patients and their parents should have lists of all things inside all foods used by people to make food items like if we are buying food with egg in it. nuts in it, etc.

Would all foods that are causing allergies in people... one thing is like in supermarkets and all, shopping, we need to be careful and read all items carefully. Children should not eat in hotels and all alone. this is not safe doing any way.

Parents should be provided written lists of terms used in packaging things. We should be careful when buying things. Then we can look at lists and also on packages and read them and then buy from will be can...

We can also prevent seriousness of the issue if we tell children not to eat what others give them. Then children should be always asked if they are eating from other people's foods. And also not eating all alone in hotels and all. it should be always with parents with them.

Children shouldn't eat what other peoples gives them to eat. In restaurants also children should not eat there are people there...

Airways and blood pressure... Epinephrine injection is the initial treatment of choice. It suppresses release and food allergy symptoms.

Ask the doctor to. Epinephrine must administered at the first symptoms, itching or swelling... tightening of neck and stridor... That's what it says.

Epinephrine injection is available in a prefilled syringe. This is an essential for doctors and also highly needed. Self injection is possible with these...

Inhalation 20 – 30 puffs... Antihistamines are not an adequate... Patterns... are of many types of allergies...

...does up and down reading only first few words. Aha, I will read this table this is a table of summary, you important points see?
Free recall
Peanuts is one thing that is causing allergies to many patients. Many... so many are very young children who go to school. In school we don't have nurses and doctors and nobody knew how to give that medicine. So they died. Like peanuts, cashew nuts, milk, also will cause death and food allergies. Children should not eat what others give you. Epinepdine is has to be given as injections, it comes as syringes.

Food allergies is very common now. Cornflakes, chips, even for babies we use cerelac and all. And all such things have additives and preservatives. Eating this is leading to food allergies. And sometimes people even die. There are some awareness programmes in some hotels and all, we should encourage people to eat from here. They should also not eat things like peanuts... everything they are allergy for. Without knowing also we should not eat such substances.

Epinephrine injection is given. It comes inside syringes, injection that is why. Many school students also died because doctors could not give this medicine, they didn't have this. But for very small children we don't know if this kind of medicine is correct. They will also have asthma no? So we should look for breathing problems.

Finally the best thing to do is people... patients should wear medicalert bracelets.

Summary
The main idea is that what are causing food allergies in children. So many children are dying every year from food allergies and this is because they are eating outside food, and also items like peanuts and fish and all. Many of these children who ate these and died was unconscious. They did not know they had eaten these things. Specific IgE is formed then and so then we must take them for testing. So we must be very careful. Children should eat only with their parents and not eat from other people's hands. A self-injectable syringe with a medicine is one treatment for this. We should give this medicine before respiring problems start. This cannot treat asthma. Another way we can help them is by making them wear Medicalert bracelets.
APPENDIX V a3

Think aloud protocol, free recall and summary produced while reading pre-structured, familiar text

TOL transcript
I think about the site and I know it is talkin, or making a website more accessible, including for people with disabilities. I know much about these things, so we have been into this for some time now.

It is talking about everything, understanding accessibility problems. In several organizations, developers have been doing this for some time. Several organizations have conducted their websites and not considering accessibility issues. This will be a big problem later.

This document provides guidance fixing accessibility barriers in existing Web sites... retrofitting a site to improve accessibility... approaches and tips for this. Getting started to understanding the issues concerned... communicating our commitment to the accessibility issue.

Developing by retrofitting plan by identifying many many barriers are there. Repairing accessibility barriers on your site efficiently and effectively.

Addressing next steps after initial retrofitting: Introducing... making an existing website accessible might prove difficult but there are different ways we can do it. Of course, it is talking about that kind of staff.

Several components of Web development are there and these are interaction like content on the Web page and this will include image, clickable, etc. Then Web browsers are also called user agents.

Assistive technology meaning specialized screen readers, alternative keyboards, switches, scanning software, etc. okay, since they help, assist people with disabilities so they have a separate set of technologies for these things, so then maybe we can think of different shapes to suit each person, so then a keyboard for the blind also? Like their books, Braille no? a scanner that works like a reader. Reading aloud, lots of things are possible. Touch screen for those who cannot use the mouse.

Also, see, users' knowledge experiences also work in making a site accessible and developers also use developers with disabilities, then there is also interaction with authoring tools for creating Web sites and evaluation tools.

Evaluating can be made easier if sample pages are done first, and then features like navigation bars, headers, etc. that are repeated in several pages are assessed. Once assessed all the pigs where these occur can be safely skipped.

Once we have an efficient evaluation done then retrofitting becomes easier.

Alright I see now, someone who can't see the image, with color problem and all, make the text available, similarly someone who is blind can't read so make the audio of the text available. This should have both positive and negative aspects identified. The main thing which this was identified, and then the follow-up steps to be taken like a bullet analysis that's to be taken, and then how to rectify these problems.

Web Content Accessibility Guidelines is called WCAG, short form no?
Documents that will explain how to make Web content accessible to people with disabilities. Web content generally refers to the information in a Web page or Web application, including text, images, forms, sounds, and such.

WCAG is part of one series of accessibility guidelines... including Authoring Tool Accessibility Guidelines (ATAG) and the User Agent Accessibility Guidelines (UAAG).

How do we set targets? Some cases customers might point out that we need to select certain barrier issues, and in some other cases, sites will be asked to meet certain accessibility levels. So these are to be done first.

And then we need to communicate this to the users. Anyways anything that happens on the site are always informed to the users. Like we say this site is under construction or regret the inconvenience, this page has been taken away for updation etc. so it's the same thing, we need to tell all that changes is happening, and this may not be the correct word to use ecos how many people will know?

The goal of evaluating retrofitting... goal of retrofitting is to define the accessibility barriers on your site and gather information to plan an efficient retrofitting project.

Thoroughly evaluating every page on your site, representatives can focus... areas in order to get more valuable information with less effort.
Free recall
This text is talking of making a website more accessible and this will be done by many many companies as for including for people with disabilities. What is understanding accessibility problems? It is also talking us... giving us guidelines for everything. Retrofitting first plan is by identifying many many barriers that are there inside for a website.

Repairing accessibility barriers on your site efficiently. Different ways of making one website accessible might be there. Web Content Accessibility Guidelines is there for guidelines. Document will explain how to make Web content accessible to people with disabilities. There is tools also.

Many components are there. Assistive technology is one and this means technology that is special and different. Screen readers, alternative keyboards, scanners, that will be suiting each person. Other elements are users' knowledge, also authoring tools and evaluation tools these are good for designers.

How do we set targets? Some cases customers might point out that we need to rectify certain barrier issues, and in some other cases sites will be asked to meet certain accessibility levels. So these are to be done first.

Evaluating can be also done. Only those things that re repeatedly appearing in pages are... can be done first. This is to make it easy. Someone person who can't see the image then make words in a text doc available, or so with blind so make the audio of the text available. Very much thoroughly evaluating should be the goal. And then we will decide now how to rectify these problems.

And then we are... have to post notices on the internet like we are always informing to the users, saying what is happening... what are we doing? etc.

Last one is strategic planning point. after repairing then think of doing help by avoid creating new barriers and to continue improving the accessibility of your site.

Another important point is prioritizing all repairing work in which which areas first. Areas that have the greatest impact on all the people who are users. Then many barriers can be together done repairing.

Summary
Many Websites are there today having accessibility barriers. So for some people with disabilities it is difficult to use the site. We have to fix accessibility barriers in existing Web sites. So for this we are trying to understand how different disabilities affect Web use and how different types of disabilities will have different kinds of need. Initial evaluation is required and identify problems first. Then another idea is to including people with disabilities in accessibility evaluation throughout Web development.

WCAG is one target for accessibility. All the problems are identified and all the barriers very easy to repair are all done first. Then we have to tell this to all through a notice like an accessibility statement. Then another thing is repair many barriers we can identify them by all the elements that come as the same across many pages. We can repair them only once and then it is corrected everywhere.
APPENDIX V a4

Think aloud protocol, free recall and summary produced while reading pre-structured, unfamiliar text

TOL transcript

Reading is a series of processes, interlinked... interlinked cognitive processes. They are not inbuilt for reading. Reading is a cognitive process, no? heading is this... a cognitive process... and then there is processes, so how many processes? I am thinking this will be...

What is this link, I like it? Oh I am like thinking you know... it's for voting, do you like this site type, we then go and type in what we feel. Bu this is same site in different patterns. Yeah but I like this, it is good for reading... but I will go back no? In the process of coming back skipped summary.

Automatic processes, many processes in the brain for reading... from childhood we are reading, it takes many years

The processes that help us in reading a text or newspaper are not made only for reading, as in we need to share this for other activities also, I like what...

See these processes that has been around for human beings has been around for more time than reading, as in development of writing has to happen for us to read not and so reading is only a very recent innovation.

As the writer is guessing that it is not really possible for us to develop such an activity in such a short space of time.

A second point made is that reading out loud is a more complex process than silent reading. Silent reading is normal, the author says, so everyone should be reading silently.

When we read our eyes make short movements, fast, fast, fast, it goes... eye moves fast on the paper when we read. But when we think it stops see? Yeah... this is called saccades. Everyone's is like this.

Our eyes do not fix us at the features of the text, instead we make use of parafocal vision.

Perceptual span also hmmm... it has different spans, size is different.

There are three types of this span, perceptual span.

Neuropsychological (clicks the link, it doesn't have anything he needs, so clicks the first link on this page, it has nothing either, so comes back to the text, but in this movement his own prior knowledge is activated) basis of reading is telling about different body parts, head, brain, eye parts that are used in reading information.

Yes, see we need eyes for reading and then in the brain we are, use the brain to understand meaning.

So then it is not neuropsychological for blind people. So many things are here. And nothing is explained very well also. It is a difficult...

A model of reading, computational model of reading, is also by... is by Rumelhart and McClelland. This paragraph here is telling about this model.

It is an interactively looks again interactive activation model. What is this? Clicks link. This is not telling me. So I am going to do this reading again, see if I read it loudly sometimes I understand.

See, it has 3 levels no? and it is... all three levels is exciting... no thats not correct. To be an... model the levels has to loop back.

The connections and loops... connections between the levels are excitatory and inhibitory... inhibitory not after producing this he goes on to click the link but immediately goes back to the text. The meaning is clearly not registered.

Rumelhart and McClelland's model was not completely correct, it has many criticisms... one is it can only... design... it can deal with it can only understand and the reading how we read it is only this letter... words and we have words that are more than letters we type computer. So what about that? Yes not... problem.

But its can be expanded even for this. We can expand this to explain this. But another criticism is saying.

Mask is... computer science jargon...

Prime word is semantically related... semantics is another word for meaning... clicks on symbol... scrolls down and checks all the results see chat symbols is good. Looks excited reading it, hey this is real good, see how many, I am going to mail it to myself...

Gets back to home page... How I lost 7 pounds of... (checks one of the ads)... Oho am sorry, let me see...

There appears to be... rereads there appears to be three possible routes of processing... in when we reading words and saying them out loud.
All these starting with a visual system.

Route one has three routes; three shows spellings and words click the link to go back to route one or sound. This is a phone. Route three shows spelling to sound... and after that speech.

Many children read differently. Route three adults grow up... read and understand.

Route two and route three... both involve.

We all have this ability. The route... this is a running speech. Then there is also the third route itself. We already described this third route.

When we are reading with sound... is reading aloud. Here in such matters the information flows through different parts like Wernicke's area. Clicks the link... see it is about a part of brain, brain organ... This is what is helping us make this concept. Then when our eyes are reading and when it goes into the brain.

It involves more processing... read which will sound. Read loud will have many... extra activities than silent reading. Processes... also mean number of words read is also more... reading aloud... when we reading aloud.

But both don't have... independent processes. Reading silently and reading aloud are both making use of the same processes.

And in the case of latter these processes go into other stages that are related to speech. Speech reading aloud not. And then I try and look and relate with the last paragraph. The summary. Yeah see it's the same... requires more processes to read out loud than to read silently.

But these processes are inherently the same. Experiments show that the rate of words read per minute is greater when reading silent than when reading aloud. This means that rate of reading is faster when reading is silent.

**Free recall**

Reading has a number of cognitive processes... these are linked to each other. The author tells us that reading silently is faster than reading aloud; but both of them have same processes. Reading aloud, loud reading is also consisting of processes relating to speech making mechanisms.

The text also says that reading aloud is slower than reading silently. And reading silently is easier than reading aloud also. It also consists of more processes than the other, reading aloud... it has more processes, activities and so it becomes slower.

Reading consists of saccade movements, the movements that eye makes to read. Using parafoveal vision we look at several words at a time, lateral vision like this enables us to cover several words in a text, the span of the text thus covered is called perceptual span. When we read aloud there is more number of processes involved no? There is eye, where we get info, and this is transmitted via a nerve to the brain, this part of the brain is called cortex, visual cortex, and processing of information happens here. It is when this happens that we say we have understood what we have read. Then it comes to Broca and Wernicke's areas, two other areas and then it moves to motor parts, motor parts of the brain, these are the areas that help us make speech sounds.

Several models of reading have been proposed by researchers to explain the processes involved in reading. One is Rumelhart and all model. These models were proposed after understanding the processes of reading and observing how people with reading disorders and with no problems read texts.

One such model proposed argues that reading consists of 3 levels of processing, at the feature level, letter level and word level. But a disadvantage that was pointed out by many researchers is that it could not explain priming and reading of longer sentences. Three routes also all three starting with a visual system. But many such processes are inherently the same. There are many experiments done by model scientists showing that the rate of words read on page... per minute is greater when reading in silent mode meaning that rate of reading is faster when reading is silent.

**Summary**

Processes of reading that are used by us are not processes only for reading alone. There are some activities like parafoveal vision that we use to understand reading a text. These help us read ahead, or see more words when than what we are reading. Many models proved to us that reading aloud is slower than reading aloud. So we need to encourage this.

Reading consists of many different interlinked processes. But not only for reading.

Many different processes are involved like saccades, parafoveal vision and perceptual span. It is also based on language. There are three types we can see.
Think aloud protocol, free recall and summary produced while reading self-navigating, familiar text

**TOL transcript**
Welcome to web development. Resource for web content developers.
This is for web content developers... now I know why it was given to me he he he.
I present... it is a process-oriented methodology for creating World Wide Web... based hypermedia works... also including links to news articles, and others
Links also to others...
The first link am clicking is the overview article, the reason why... I think I want to have an overview what WD is about. This article like... gives you complete info about how to develop info content for www. It provides u like methodologies involved... a person called John December has given like...

Opens overview developing content... Content development, See here “Developing Information Content for the World Wide Web” now anyone like me will find it easier for understanding... quickly if you say “Content Development” familiar and quick...
With the expanding technical options... developers... focus only on issues such as hypertext markup language syntax, page layout, or the latest and flashiest technologies. Flash also no?
Web developers need a broader process-oriented approach...
Pay close attention to the characteristics and qualities of the Web as a medium for communication so not merely duplicate practices intended for paper
Developers should take into consideration the nature and quality of the Web and develop a process-oriented methodology. So don't copy the paper and put it up... in computer we need to think of multimedia, yeah see, that's why we're thinking... talking of hypermedia. This is a very important thing when we talk of www.
The methodology for info or content development for the web involves 6 elements and six processes.
Elements are Planning define target audience, purpose, objectives, and policies for information development and use.
Then is Analysis: check technical construction of web with validation tools; evaluate information consistency and verify correctness of domain information.
I will look at this later. Design, Implementation. Then now processes. Six processes: first some back.

Seems like planning and all... maybe some changes but I have read it already... will look at it
See, this second processes is also the same... so many times, then why put it in the overview in the first place? we sometimes have a way of letting the reader know if the node has been already visited... changes color n all...
Same no with elements... no... yeah... this is also the same page.
Elements. These are... Audience information... store of knowledge about audience.
Then purpose statement. Hmmmm yeah... defines the reason for and scope of the web's existence.
Then comes objectives. What is it that the web should accomplish and domain information... clear enough, info about the domain...

Web specification is detailed description of the constraints and elements that will go into the web.
And then the web presentation. how is the web presented to users... what are the technical structures that we will use like what types of media etc.
Oho, the objectives list comes from purpose statement and audience list, yeah that's right.

Domain info is. collecting it is part of our R & D. from this we are able to glean a lot of info. Even if we are not planning to put it all in. it improves our ability to organize the site, and even writing skills, see. like this SOA thing, we kept reading up not cos we needed it but we wanted to understand it, what's it people are talking about, etc. so this helps u know.

**Free recall**

Article is for web content developers, web info content developers. How to develop info for the web, how to develop websites. The writer is promoting a new approach called the process oriented methodology where we are... need to pay attention to many things in web in order to develop good websites. Otherwise the danger is we will end up just reproducing what we do on the paper medium. Hence the importance of understanding the potential of the web so that more attention can be placed on the process of developing the site.

This new methodology consists of 6 elements, like collecting audience information, then we make... making a purpose statement, this is what tells us about the goals of the web. Audience information should not be too... too broad. Then there is no focus. Then the Aims and Objectives doc, I think these two can be made into one, mebe I should read up more on this... the difference between the two. It might be very general first. Then it slowly changes.

**Summary**

This writer has developed a process-oriented approach for developing websites. It is consisting of 6 processes and elements. Audience information and purpose statement are two things we need for this. Also web presentation and specs.

Then we come to elements. Planning when we plan about the web, and implementation to use HTML tools and check in browsers. There is promotion also. This is for publicity, when we do releases for the web site.

Another thing is domain information.
Think aloud protocol, free recall and summary produced while reading self-navigating, unfamiliar text

**TOL transcript**

Polite, hypertexts... I know hypertexts, what they are...
I have twisted the language to contrive... meaning to make... the title of this essay because I want to interrogate the future of literacy, both its electronic formations and its social origins... This is to examine the future of literacy: literacy in the electronic age and pre-electronic age, social texts will be different... with hypertexts and all the electronic age, and before that, with books and print mediums.

Hence I am using the unpronounceable location e-literacies, but this meaning is not there in the dictionary... reading and writing processes specific to electronic texts second to signify e-literacies...

So the social origins and effects also meaning effects of these kinds of texts, literacy... effects of this electronic literacy and pre-electronic literacy... don't know this, what effect will it be...? Have some people not have to read electronic literacy, as they have to work on a computer not... so many ways to read this essay, none of which will exactly replicate...

Things like newspapers and books have already reached everywhere... so reading on the print medium is quite easy, can everyone knows it, has been around for a long long time now. Whereas this other one, this electronic literacy is only just starting. That's the thing... then again I don't think we need special literacy skills to do things like turning a page, etc, whereas for a computer it is different, we need to click, turn on, shut down, etc.

One note that is put also is a significant feature of hypertext environments is their capacity for inclusion...
their construction of a vast and necessarily unfinished collage of documents striving to represent the knowledge and the agon of a discipline... agon? What is the meaning of this word? As yet, no boundless writing space exists...
So I have had to try to create my own si - mu - la - crum of a textual domain, are so many new words am not aware of the meaning of...
Sometimes, all you will want is a standard bibliographical references also available...
I think this is very complicated. So far I have not understood anything much. I think I will re-read once more and see.

**Free recall**

Hypertexts have much significance now in the late age of print. Hypertexts are those texts that are linked to a vast amount of information, like in the internet texts... literacy is... will be different from what is was because of the presence of pre-electronic and electronic texts... no, literacy in pre-electronic age is different from electronic age why because of the presence of these new types of hypertexts.
The development of these texts is very much dependent on social issues. There is much effect on people who will read such texts and all since there is no equality right now. How accessible are computers to the common man, etc. we all know. But not to worry much because it is only just now starting.

**Summary**

There are two important points. Two meanings of one word e-literacies. One is about the future of literacy and the effect of social origins and effects. Reading and writing processes that are specific to electronic texts. And texts are all texts we find in the internet, hypertexts that have sounds, images, and everything. Then the second meaning is to mention why some people who can use computer and all are called elites or upper class.
APPENDIX VI

IELTS BAND DESCRIPTORS

An IELTS band 8 is considered a VERY GOOD USER who has 'fully operational command of the language' but with 'only occasional unsystematic inaccuracies and inappropriacies. Misunderstanding may occur in unfamiliar situations but this user can handle complex detailed argumentation well'.

Band 7 is described as a GOOD USER. A candidate at this level will show an 'operational command of the language, though with occasional inaccuracies, inappropriacies and misunderstandings in some situations'. They can 'generally handle complex language well and understand detailed reasoning'.

Band 6 indicates a COMPETENT USER, who has 'generally effective command of the language despite some inaccuracies, inappropriacies and misunderstandings' and 'can use fairly complex language, particularly in familiar situations'.

Band 5 is a MODEST USER with 'partial command of the language, coping with overall meaning in most situations, though likely to make many mistakes'. A band 5 user 'should be able to handle basic communication in their own field'.

Band 4 describes a LIMITED USER whose 'basic competence is limited to familiar situations'. This user 'has frequent problems in understanding and expression and is not able to use complex language'.

Band 3 means an EXTREMELY LIMITED USER, who 'conveys and understands only general meaning in very familiar situations. Frequent breakdowns in communication occur'.

(Source: http://ielts-preparation.110mb.com/bands.htm)
APPENDIX VII A

NUMBER OF EACH CLAUSE TYPE GENERATED BY HL2 HPK READERS

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FREE RECALL AND SUMMARY SCORES, AND SUMMARY GRADES
OF HL2 HPK READERS

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## APPENDIX VII D

FREE RECALL AND SUMMARY SCORES, AND SUMMARY GRADES
OF HL2 LPK READERS

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## APPENDIX VIII A

### NUMBER OF EACH CLAUSE TYPE GENERATED BY LL2 HPK READERS

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###APPENDIX VIII B

FREE RECALL AND SUMMARY SCORES AND SUMMARY GRADES OF LL2 HPK READERS

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**Note:** The values in the table represent scores and summary grades for different readers, indicating the performance in recall and summarising. The columns PRT, PS, and SN represent the scores in different categories, and the columns PRT: 10 PS: 10 SN: 10 represent the summary grades.
APPENDIX VIII C

NUMBER OF EACH CLAUSE TYPE GENERATED BY LL2 LPK READERS

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APPENDIX VIII D

FREE RECALL AND SUMMARY SCORES, AND SUMMARY GRADES

LL2 LPK READERS

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