FUNCTIONALIZED READING MATERIAL:
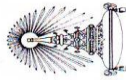# REVITALIZING TOP-DOWN PROCESSING TECHNIQUE

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Abstract:

Two sorts of technique in assisting students to obtain receptive skills are bottom-up and top-down processing. Bottom-up processing commences from sounds to words to grammar to an ultimate message; it is form-focused. Top-down processing, on the other hand, commences from the prior knowledge that students possess; it is meaning/function-focused. A somewhat illustrative model of instructional material for teaching reading will be provided in this paper as an alternative of revitalizing top-down processing technique.

Language is kept alive because of its functions: referential, personal, directive, phatic, commissive, metalinguistic and poetic functions. Considering the zeal of interactive language teaching material, the writer proposes a functionalized material design to include those language functions. More specifically, a model of instructional material design is then presented to reveal how the exercise of one particular reading text can be developed to cover seven language functions.

1. Introduction

What is reading? Anthony, Pearson, and Raphael (1993) in Farrell (2002:1) define reading as interactive meaning forming. They more particularly state: "Reading is the process of constructing meaning through the dynamic interaction among the reader's existing knowledge, the information suggested by the written language, and the context of the reading situation."

Implied in the definition put forward in the previous paragraph are the two sorts of technique in assisting students to obtain reading skill as one of the receptive skills. They are bottom-up and top-down processing. Bottom-up processing commences from words or sentences to grammar to an ultimate message; it is form-focused. Top-down processing, on the other hand, commences from the prior knowledge that students possess; it is meaning/function-focused.

Top-down processing focuses on one's prior knowledge in obtaining the gist of a piece of language. Brown (1994:246) claims that top-down technique is more concerned with

meaning, the global understanding. Implicitly stated is that top-down processing is most likely function-centered which is congruous with the functionalists" idea emphasizing on functions of language.

Quoting Yalden (1987), Richards (2001:38) puts forward the idea of injecting the functions of language as one of the components to help learners acquire the ability to communicate in a more appropriate way. Implied from the previous quotation is that providing students with chances to use the target language to get communicative purposes will mean taking into consideration the sorts of language functions in teaching materials. Related to reading materials, it is not unwise for teachers to incorporate the functions of language in the material design.

Inspired by the idea of top-down processing which is meaning/function-centered, the writer is primarily going to propose a functionalized material design to include those language functions. More specifically, a model of instructional material design is then presented to reveal how the exercise of one particular reading text can be developed to cover seven language functions. Prior to this main issue, related underlying theories are discussed. Consequently the discussion on top-down/bottom-up processing techniques, and functions of language follow this introductory part.

2 Bottom-up and Top-down Processing

Bottom-up processing in language teaching results in the form-oriented instruction. In this particular bottom-up processing, Nuttall (1996:17) informs, readers construct meanings from "the black marks on the page: recognizing letters and words, working out sentence structure." Similarly, Farrell (2002: 2) points out that in this bottom-up model, readers start reading by paying attention to the words and sentences and then look at the organization of the text.

Top-down processing which is one of the two types of processing in both listening and reading comprehension is evoked from "a bank of prior knowledge and global expectations" (Morley, 1991 as quoted in Brown, 1994:246). Similarly, Gebhard (1996:144) puts forward:

> While successful bottom-up processing relies on recognition of sounds, words, and grammar, successful top-down processing hinges on having the kind of background knowledge needed to comprehend the meaning of a message.

Farrell (2002:2) also argues that instead of working from text to meaning, top-down processing works from meaning to text. Implicitly, top-down processing dwells heavily on meaning.

Top-down processing or conceptually driven processing employs "a whole host of background information into the arena of making decisions" about meaning (Brown, 1994:284). This meaning orientation is undoubtedly congruous with the idea of functionalists. As a consequence, top-down processing indirectly means that the main concern of teaching falls to attending to the functional purposes of language and providing contextual settings for the realization of the purposes. What is therefore essential to be raised is the question of "What is language for?" The next discussion is then devoted to elaborate the answer to the question.

3 Functions of Language

Quoted by Bell (1976:84-85; 1981:120) and by Levinson (1983:41), Jacobson (1960) suggests six functions of language. The language functions put forward by Jacobson proceeds by first identifying the elements for communication, i.e. addresser, addressee, context, message, contact and code. The six „basic components of communicational event" (using Levinson"s term) or the six „more sophisticated view of language functions" (using Bell"s term) of Jacobson"s are: (1) *Referential/cognitive*, (2) *Emotive/expressive/affective*, (3) *Conative/directive, (4) Metalinguistic,* (5) *Phatic/ interaction management*, and (6) *Poetic* functions.

Synthesizing language functions by some linguists, Finocchiaro (1974:5) puts forward the following set of language functions:

1) *Personal*: to express one"s emotions, needs, thoughts, desires, attitudes, etc.
2) *Interpersonal*: to maintain good social relations with individuals and groups - expressions of praise, sympathy, joy at another"s success, inquiries about health, etc.
3) *Directive*: to control the behaviour of others through advice, warning, requests, persuasion, discussion, etc.
4) *Referential*: to talk about objects or events in the immediate setting or environment or in the culture.
5) *Metalinguistic*: to talk about language; e.g., What does_____mean?
6) *Imaginative*: to use language creatively in rhyming, composing poetry, etc.

Searle (1976) quoted in Levinson (1983:240) points out five kinds of language functions. The five macro classes of illocutionary acts (see Coulthard, 1985:24) proposed by Searle are:

1) *Representative*: to commit speaker to the truth of the expressed proposition of which the typical examples are asserting and concluding.

2) *Directives*: to get the addresser to do something (requesting, questioning are its typical examples).

3) *Commissives*: to commit the speaker to some future course of action (promising, threatening, offering are its typical examples).

4) *Expressives*: to express a psychological state (thanking, apologizing, welcoming, congratulating are its typical examples).

5) *Declarations*: to effect immediate changes in the institutional state of affairs and to rely on elaborate extra-linguistic institutions (excommunicating, declaring war, firing from employment are its typical examples).

Cook (1989:25-26) considering the seven elements of communication (addresser, addressee, channel, message form, topic, code and setting) puts forward seven sorts of language functions. They are as follows:

The emotive function: communicating the inner states and emotions of the addresser („Oh   no!, „Fantastic", „Ugh!, and swear words used as exclamations.

The directive function: seeking to affect the behaviour of the addressee („Please help me!", „Shut up!", „I'm warning you!).

The phatic function: opening the channel or checking that it is working, either for social reasons („Hello", „Lovely weather", „Do you come here often?") or for practical ones („Can you hear me?", „Are you still there?", „Can you see the blackboard from the back of the room?", „Can you read my writing?").

The poetic function: in which the particular form chosen is the essence of the message. (The advertising slogan BEANZ MEINZ HEINZ would lose its point if it were paraphrased as „If you are buying beans, you will naturally buy Heinz.")

The referential function: carrying information.

The metalinguistic function: focusing attention upon the code itself, to clarify it or to renegotiate it („What does this word mean?", „This bone is known as "femur" ", „ "Will" and "shall" mean the same thing nowadays"). This book has largely metalinguistic function.

The contextual function: creating a particular kind of communication („Right, let's start the lecture", „It's just a game").

Holmes (1992:286) claims that there are a number of ways to classify speech functions. He however suggests the following set of language functions useful in sociolinguistic research:

1) **Expressive** utterances express the speaker's feelings, e.g. I'm feeling great today.

2) **Directive** utterances attempt to get someone to do something, e.g. Clear the table.
3) **Referential** utterances provide information, e.g. At the third stroke it will be three o‟clock precisely.
4) **Metalinguistic** utterances comment on language itself, e.g. „Hegemony‟ is not a common word.
5) **Poetic** utterances focus on aesthetic features of language, e.g. poem, an ear catching motto, a rhyme: Peter Piper picked a peck of pickled peppers.
6) **Phatic** utterances express solidarity and empathy with others, e.g. Hi, how are you, lovely day isn‟t it!

Taking the idea of Van Ek and Trim (1998), Richards (2001: 155, 179 -182) presents 126 functions of language. These functions are grouped into 6 categories: (1) imparting and seeking factual information, (2) expressing and finding out attitudes, (3) deciding on courses of action, (4) socializing (5) structuring discourse, and (6) communication repair. The assumption to analyze the basic functions of language is that "mastery of individual functions will result in overall communicative ability" (Richards, 2001:155)

Having presented language functions put forward by those linguists, the writer is now presenting the synthesis of those language functions. Careful reading of the explanation given in each function discussed above leads the writer to conclude that there are 7 language functions. They are (1) referential function, (2) personal function, (3) directive function, (4) metalinguistic function, (5) phatic function, (6) commissive function, and (7) poetic function.

4. Function-based Model for Reading Material: One Reading Text Covering Seven Language Functions

The two underlying theories of this paper – bottom-up and top-down processing – and language functions have been put forward. It is high time that a concrete model was presented.

The following model takes a reading text appearing in a commercially published textbook (Soegeng, Mulyono and Widodo, 2001) intended for students of Junior High School in Indonesia. The theme of the text is technology. To inject the seven functions, a reading teacher can, by employing the text, come up with his created material detailed below:

The text:

The first electronic computer was built in the US in 1946. An electronic computer is a machine which stores, memorizes, and processes information. This machine can do a lot of jobs very much quickly than people can. Since the first time it was introduced a computer has become more powerful, smaller in size, and cheaper.

There are three kinds of computers, namely:

1. Mainframe; it is a very large and powerful computer. It is usually used by the government and industry. Many people can use a mainframe at the same time.
2. Minicomputer; this computer is also known as a personal computer or PC. It is used by families.
3. Microcomputer: a microcomputer is very small and is usually used as a part of a bigger machine.

   A set of computer consists of three main parts, namely the central processing unit or CPU, the keyboard, and the monitor. The CPU works like our brain. It stores, memorizes and processes the data. To give information we must use the keyboard. We can use it for typing or giving other instructions. When we want to see the result, the monitor will show it on its screen. And when we want to get a copy of the result on paper, we can use the printer. We can also save the data in a diskette and open it again and again.

   A computer and its printer can only work by electricity. So do not forget to switch it off when you have finished. Because a computer is a machine, it cannot make mistakes. Therefore the operator must be careful.

[Toward the referential function of language, the teaching material can be designed as follows:]

Answer the following questions: (numbers 1-3 are factual questions, 4–7 are inferential questions and 8 is an evaluative question)

1. When was the first electric computer built?
2. How many main parts does a set of computer have?
3. What kind of computer is usually used by industries?
4. Read paragraph 1 again and answer the following question:
   If a job can be done in 20 minutes by a computer, how many minutes does it take a person to finish the same job?
5. Which one is smaller, a computer produced now or the one in the past?
6. Which sentence in the text shows that we can see the look of what we have designed before we print it?
7. Read paragraph 3 again. Is it a must for one to own a computer and also a keyboard? Is it a must for one to own a computer and also a printer?
8. "Because computer is a machine, it cannot make mistakes" Give your comment!

[Toward the personal function of language, the teaching material can be designed as follows:]

Answer the following questions:

Do you have a PC (Personal Computer) at home?

If your answer is YES, answer this question: If it is taken away from you, how do you feel?

If your answer is NO, answer this question: If you get one, how do you feel?

[Toward the directive and commissive functions of language, the teaching material can be designed as follows:]

Form groups of 4 students. Student 1 has in front of him/her a set of cards (Set A). Student 2 has the other set of cards (Set B). Students 4 and 5 have their text. Follow the example and take turn to practice:

e.g. 1

Student 1	:	[gets a card - **Mini computer is used by ......** - and put it on the table]
Student 2	:	[gets a card - **families** - and puts it in the blank space to complete the sentence thus forming **Mini computer is used by families.**]
Student 1	:	Tell me then, is it correct?
Students 3 & 4	:	OK let us check in the text
		[The two students read the text again and one of them responds] Yes. It"s correct. Read it now.
Students 1 & 2	:	Mini computer is used by families.

e.g. 2

Student 1	:	[gets a card - **Mini computer is used by ......** - and puts it on the table]
Student 2	:	[gets a card - **diskettes** - and puts it in the blank space to complete the sentence thus forming **Mini computer is used by diskettes**]
Student 1	:	Tell me then, is it correct?
Students 3 & 4	:	OK let us check in the text
		[The two students read the text again and one of them responds:] No. Get another card.
Student 2	:	[gets another card - **families** - and puts it in the blank space to complete the sentence thus forming **Mini computer is used by families**]
Student 1	:	Is it correct now?
Students 3 & 4	:	Yes, that"s it. Read it now.
Students 1 & 2	:	Mini computer is used by families.

[Note: Related to this particular material design, the teacher needs to prepare 2 sets of cards. Set 1 consists of unfinished sentences like:

A computer can work by ……

Mini computer is used by ……

If we want to get a copy of the typing result, we can use the …

while Set 2 consists of words and/or pictures to complete the sentences in Set 1. They are among others: *electricity*, *families* (in words), *diskettes*, *printers*, *screen* (can be in pictures)].

[Toward the metalinguistic function of language, the teaching material can be designed as follows:]

1. One sentence in the text says: "An electric computer is a machine which stores, memorizes and processes information." Now complete the following:

   An electric computer stores information.

   It also .... information, and

   It also .... information

2. Another sentence says: "Since the first time it was introduced a computer has become more powerful, smaller in size, and cheaper." What does „it „ refer to?

[Toward the phatic function of language, the teaching material can be designed as follows:]

Form groups of 4 students. Student 1 has in front of him/her a set of cards (Set A). Student 2 has the other set of cards (Set B).

e.g. 1

Student 1	*[gets a card on which* **Have you ever broken a diskette***? is written]*	:	Have you ever broken a diskette?
Student 2	*[gets a card on which* **Never** *is written]*	:	Never
Student 3		:	Wow that"s great. How lucky you are.
Student 4		:	Really? How nice.

e.g. 2

Student 1	*[gets a card on which* **Have you ever broken a diskette?** *is written]*	:	Have you ever broken a diskette?
Student 2	*[gets a card on which* **Always** *is written]*	:	Always
Student 3		:	Wow... How poor you are.
Student 4		:	Come on. You must be kidding.

[Note: Related to this particular exercise, the teacher needs to prepare 2 sets of cards. Set 1 consists of sentences like:

Have you ever broken a diskette?
Have you ever broken a computer monitor?
How often do you play using a computer?
How often do you use your computer for surfing internet?

while Set 2 consists of words – adverbs of frequency: *always*, *often*, *sometimes*, and *never*]

[Toward the poetic function of language, the teaching material can be designed as follows:]

Read the following poem.

MY COMPUTER
PENTIUM 4
IT HAS A MOUSE WITH NO LEGS
NO RUNNING THEN
NO BITING
IT HAS A MONITOR
BUT NOT MONIQUE LEWINSKY
IT HAS CPU
AND IT HAS A SCREEN
BUT NOT A GREEN SCREEN
OH .....
BILL GATES
HOW CLEVER YOU ARE!

Now have fun by telling your friends about your ideal computer. You can either have pair or individual work.

5 Conclusion

The paper has discussed the distinction between top-down and bottom-up processing techniques. It has also depicted the varied functions of language. Implicitly, one‟s reading should result not only in one‟s understanding the essence of the text read, but also in one‟s applying the functions of language.

The paper has provided a model of how reading teachers can design something new about teaching materials based more on functional view of language. The model presented is merely illustrative. It is expected to be persuasive to encourage others to inject function-based teaching materials.

As previously mentioned, the proposed model of functionalized material design to cover seven language functions is primarily congruous with the idea of top-down processing. Nevertheless, it does not mean that the bottom-up processing is neglected completely. This is proved by the exercise designed toward metalinguistic function of language. The proposed model is then in favor of the interactive model which argues that in practice readers make use of both top-down and bottom-up processing (Read Farrell, 2002 and Nuttall, 1996 for more discussion on interactive model). This particular favor in fact neutralizes the impression that teaching must be polarized. Polarization in teaching is not safe as Ellis (2001:125) puts it : "Dichotomies about pedagogy are dangerous, however. They give the impression that teaching must be one thing or another – that teaching has to be either meaning- or form-focused."

To activate prior knowledge of the students before they read, the teacher can commence with the exercise dealing with poetic function of language. The students can be asked to free write on the topic. This particular starter reflects affective as well as cognitive responses to the topic being discussed. The students‟ motivation is indirectly aroused prior to their reading.

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