Language and Society

Language is the most social of all cognitive phenomena.

Functions of Language Production
1. To persuade someone to do something.
2. To persuade someone to say something (establish a fact).
3. To influence someone to keep a relationship (keep their attention or entertain them).
4. To influence the related person to like you.

Difficulties in Language Production Research
1. Researchers cannot manipulate the ideas people are about to say or write.
2. Language production is action driven (behaviorist approach) so cognitive psychologists avoid delving into this field.
Speaking

Producing a Word
1. We say 2-3 words a second.
2. Roughly 75,000-100,000 words in our vocabulary.
3. Imagine extracting 2-3 words per second from this large store.
4. And extracting the words for the sentence that are grammatically correct.

How is the word generated?
1. Grammatical Considerations
2. Semantic Considerations
3. Phonological considerations

Two theories:
All aspects are retrieved simultaneously
Each aspect retrieved with different latency.
Event-Related Potentials

Turnout et al (1998) suggest that grammatical aspects of a language may be produced 40 ms before the phonological aspects.

Motor Responses

Verbalizations of words include motor movements of the tongue and other parts of the oral cavity. However, hand movements may facilitate word production.

Frick-Horbury and Guttentag (1998) showed recall was poor when hands were constrained than when free to recall.

Producing a Sentence

1. We plan a gist (meaning) of the sentence first. A top-down process.
2. General structure of the sentence without exact words.
3. Select words and their forms (grammatically correct).
4. The sentence is finally uttered by articulating phonemes.
Sequential process

These stages of sentence production overlap. The first part of the sentence may be articulated when the final part may still be in the planning phase.

The jungle was deep and dark with little light to guide our way.

Sequential?

How do we know that sentence generation is a sequential process?

Because of the pauses we make during conversation. Pauses take half of our speaking time. The longer the sentence the longer are the pauses.

Linearization Problem

The problem of arranging words in an ordered linear sequence that represent a thought or an image. Linearization becomes a problem when many ideas are being simultaneously described.
Prosody

Requires that a speaker not only stop at the phonetic parts of sentence but also plan intonations and stress of words articulated.

Speech Errors

1. One error in 500 sentences. Good accuracy.
2. Formal talk may have more errors.

Slip-of-the-tongue Errors

1. Sound errors: Snow flurries = flow snurries.
3. Word errors: Writing a letter to my mother = Writing a mother to my letter.
4. Anticipation errors: reading list = leading list.
5. Preservation errors: waking rabbits = waking wabbits.
6. Deletions: same state = same sate
Slips Why?

1. Freud’s theory: Unconscious motives
2. Dell’s theory: Parallel distributed processing

She sells seashells on the seashore.

Producing Discourse

Language unit larger than a sentence. Psycholinguists have paid much attention on Narrative research. Narrative is simply a story.

Parts of the Narrative

1. Brief overview of the story.
2. Summary of characters and setting.
3. An action that made the situation complicated.
4. The point of the story.
5. The resolution of the story.
6. Final signal that the story is complete.
Social Context of Speech

Language is a social instrument (Clark & Van Der Wege, 2002; Guerin, 2003).

**Pragmatics:** The art of using social rules in conversation. Consists on two research avenues, common ground and directives.

Common Ground

Language is a social instrument (Clark & Van Der Wege, 2002; Guerin, 2003).

Common ground (collaborative process) means that the conversationalists share similar background knowledge, schemas, and experiences that are necessary for mutual understanding.

Tangrams

Director arranges 12 tangrams sit on a table across from the matcher. Describes each tangram and ask the matcher to find out which tangram he was talking about. Completes all tangrams.
Lexical Entrainment

Pattern (shorthand) that two communicators use when they create or adopt a standard term to refer to an object (Brennan and Clark, 1996).

Lexical Entrainment

Bortfield and Brennan (1997) used 15 photos of chairs. Paired up English-Japanese and English-English students and asked them to form shorthand for chairs. Both groups showed the same degree of lexical entrainment.
Conversational Format

Conversational format refers to structure of conversation between two individuals which is dictated by social rules.

During conversation the silence between speakers is less than 1 second. People make pre-closing statements before saying good-bye.

Directives

A sentence that requests someone to do something. More polite requests require more words. Over-polite directive could be construed as ironic and insulting (Kumon-Nakamura, 1995).

Obstacles to Comply

Some directives may have built-in options for someone either to comply or not. Such directives are given because the speaker foresees obstacles in compliance. “Can you drive me home, or do you have to stay at the library?” People frame these directives to avoid others getting into problems.
Indirect Speech Acts

Directive (indirect speech acts) can be expressed as questions. The teacher may say, “What are you laughing about?” demanding or requesting silence.

Directives as hints

Directive can be expressed as hints. A person may ask, “I wonder if there is butter in the fridge?” instead of a more direct question, Would you get me some butter, please?”

Directives as Complaints

Directive can be expressed as complaints. A person may say, “It is cold in here” for some one to close the window.
Writing

Writing is a most complex form of cognitive task and requires all kind of cognitive tasks we have studied so far. So it includes attention, perception, memory, imagery, knowledge, metacognition, reading, problem solving, creativity, reasoning and decision making (Kellog, 1994, 1996)

Research
Research of writing is extremely sparse so very little is understood about writing.

Comparison: Similarities

<table>
<thead>
<tr>
<th>Speaking</th>
<th>Writing</th>
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<tbody>
<tr>
<td>Sentence production is a continuous process</td>
<td></td>
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<tr>
<td>Grammatical and semantic considerations</td>
<td></td>
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<tr>
<td>Gist-structure-words-phonemes</td>
<td></td>
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<tr>
<td>Sequential process</td>
<td></td>
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<tr>
<td>Hesitant vs. fluent phases</td>
<td></td>
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</tbody>
</table>
Comparison: Differences

<table>
<thead>
<tr>
<th>Speaking</th>
<th>Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>More likely a shared act</td>
<td>More likely an isolated act</td>
</tr>
<tr>
<td>Less formal, less complex syntax</td>
<td>More formal, more complex syntax</td>
</tr>
<tr>
<td>No revisions</td>
<td>Extensive revisions</td>
</tr>
<tr>
<td>Faster speed</td>
<td>Usually slower speed</td>
</tr>
<tr>
<td>Immediate interaction with audience (common ground)</td>
<td>No immediate interaction</td>
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Cognitive Overload

Since writing is a difficult task, the writer is running on cognitive overload (Flower and Hayes 1980).

Cognitive Model of Writing

John Hayes (1996), suggests a number of factors affect writing.

1. Social environment (for audience the paper is being written).
2. Physical Environment (Whether a computer or a pen-pencil is used).
3. Motivational factors (anxiety and fatigue).
Cognitive Model of Writing

5. Long-term memory (semantic memory, specific knowledge, schemas, knowledge about audience, knowledge about writing style).

Phases of Writing

1. Planning
2. Generating sentence (Gist-structure-words-phonemes)
3. Revising

Phases of writing overlap. One may plan an idea and start generating sentences relating to segments of the idea. During revisions, new ideas may come about and are included in writing.

Planning Writing

1. Generate ideas: Prewriting, many ideas, process is effortful.
2. First draft: Selected standard ideas, unusual ideas omitted, often times new ideas incorporated in first draft not sought in prewriting process.
Sentence Generation

1. **Talking to one’s self:** During sentence generation writers often talk to themselves (requires phonological loop of memory).

2. **Hesitant vs. fluent phases:** Writing just like speaking is interlaced with hesitant and fluent phases. During hesitant phases the writer takes more time than fluent phases. Use of computers (compared to paper-pencil) does not affect writing fluency but improves efficiency in text arrangement.

Revision Phase

1. **Structural components:** Novice writers pay more attention to structural (spellings, grammar) features of text, than experts.

2. **Organizational components:** Expert writers pay more attention organization of text, focus and transition between ideas.

3. **Proofreading:** Writers tend to overlook their mistakes in text. Writers relying on word processor to find mistake, fail to appreciate that these programs only catch non-words.

Bilingualism
Bilingualism

A person who speaks two languages that differ from one another, is bilingual.

Bilingual's native language is called his first language and his non-native language his second language.

A person may know more than two languages yet he is called a bilingual.

Background

About half the people in the world are somewhat bilingual (Fabbro, 1999). The reason for their being bilingual are:

1. Live in bilingual regions, e.g. Quebec
2. First language is not official language e.g. South Africans
3. Studied in school or grew up in bilingual homes.
4. Immigration.

Additive vs. Subtractive Bilingualism

An individual who acquires proficiency in the second language with no loss in his first language is termed as additive bilingualism. However, if the second language replaces the first language it is called subtractive bilingualism.
Bilingualism and Attitudes

Learning a second language improves attitudes towards native speakers of the language. English Canadians gained proficiency in French also developed more positive attitudes towards French Canadians than controls.

Advantages in Bilingualism

Early researchers believed that learning two languages would compromise limited cognitive capacities, thus it was disadvantageous to learn a second language.

Flawed research. Lower-class French children compared with middle-class English children on IQ and achievement. Tests were in English.

Advantages in Bilingualism

Peal and Lambert (1962) suggested that bilinguals are better than monolinguals, for they showed better first-language skills and mental flexibility.
Advantages in Bilingualism

1. Bilinguals improve expertise in first language. Structure, morphemes, and printed symbols are better understood.
2. Show awareness of phonological components of language.
3. Recognize grammar better than monolinguals. “The dog meows” was recognized to be grammatically correct by bilinguals.
4. Bilinguals are aware of names assigned to objects that are arbitrary. The name “dog” could be assigned to the same animal as the name “cow”. Show more awareness on a number of metalinguistic measures.
5. Bilinguals children are more sensitive to some pragmatic aspects of language.
6. Bilinguals children are better at following complicated instructions.
7. Bilinguals perform better than monolinguals on creativity tests.
8. Bilinguals perform better at concept formation, nonverbal intelligence tests, reorganization of visual patterns, and problem solving tasks that require them to ignore irrelevant information.
Disadvantages in Bilingualism

1. Trivial. Pronunciation difficulties
2. Response time slows down, during recognition tasks, language processing speed, and decision making.
3. However these disadvantages are small compared to advantages the bilinguals have.

Age and Bilingualism

Research suggests that age of acquisition does influence the mastery of phonology or speech sounds. Individual who acquire second language in early life have no or little accent than those who acquire it later.

Vocabulary and Grammar

1. Age of acquisition does not seem to be related to vocabulary. Children and adults seem to acquire equal skills in mastering vocabulary.
2. Although early analysis showed age-related proficiency in grammar, but when years of experience with the language is taken into account, controlling other factors, age shows no effect on grammar acquisition.