

# **Overview of Communication Disorders**

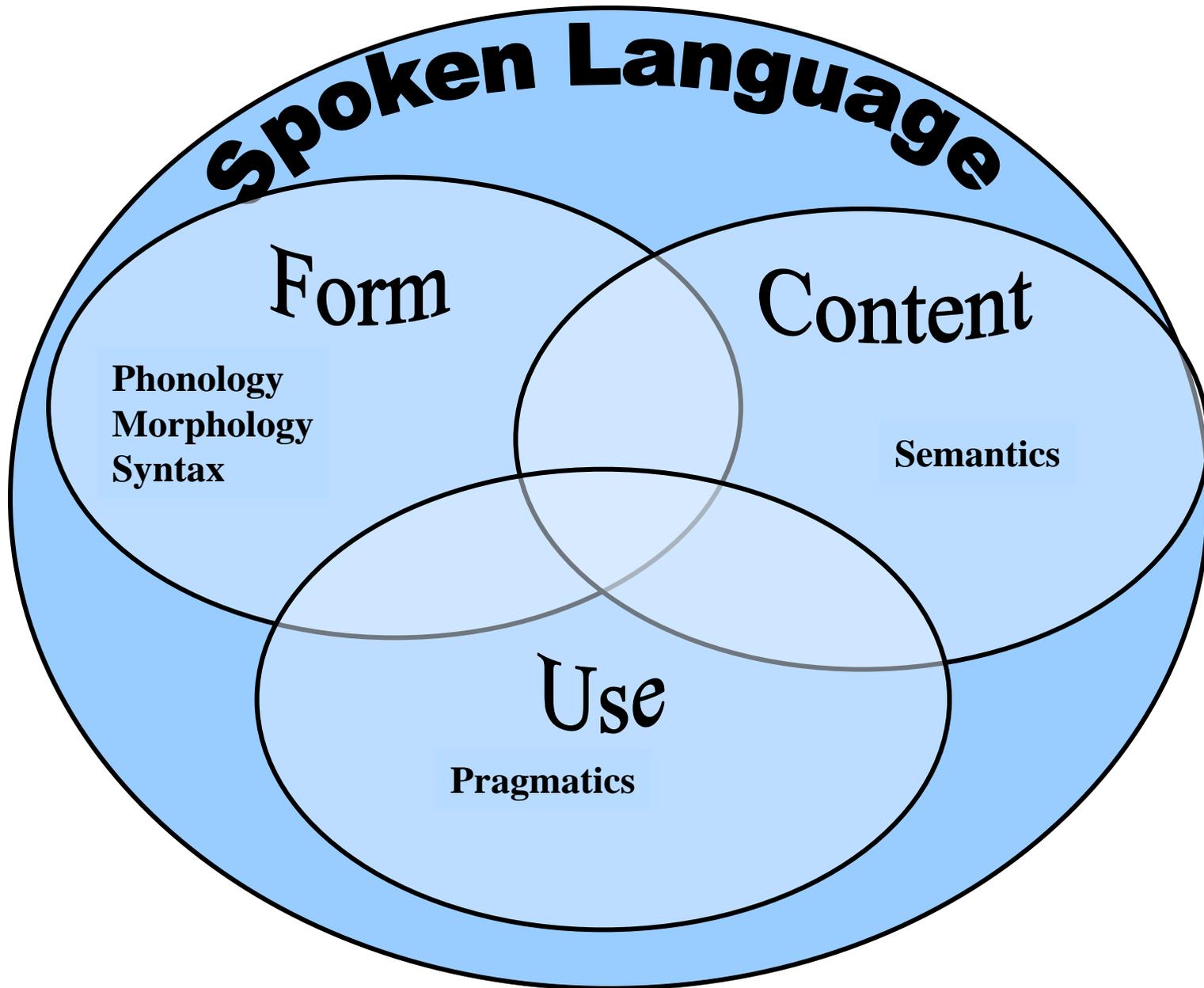
## **Focus on Language Disorders**

# What is a Language Disorder?

- “Children can be described as having a ***language disorder*** if they have a significant deficit learning to talk, understand, or use any aspect of language appropriately, relative to both environmental and norm referenced expectations for children of a similar developmental level.” (R. Paul, 2001)

# ASHA' s Definition

- **Language Disorder:** impairment in comprehension or use of spoken, written, or other symbol system.
- May involve the form, content, or use of language



# Expressive vs. Receptive

- Receptive refers to the ability to comprehend what is said (be a competent listener)
- Expressive refers to the ability to generate semantically correct grammatical sentences that follow the appropriate pragmatics of conversation (be a competent speaker)

# Normativist vs. Neutralist

- **Normativist (Fey):** a deficit big enough to be recognized by parents and teachers- one that affects how a child functions socially or academically in the world that he lives in
- **Neutralist:** a deficit in relation to norm referenced expectations

# Standard Scores

- 100 +/- 15 for average range (85-115)
  - 50<sup>th</sup> percentile corresponds to 100
  - Average range is 16<sup>th</sup> - 84<sup>th</sup> percentile
  - This covers a full 67% of the population
- Subtest scores can have an average mean of 10 +/-3 for average range (7-13)

# Common Norm-referenced Tests

- Clinical Evaluation of Language Fundamentals (CELF)
- Peabody Picture Vocabulary Test (PPVT)
- Expressive Vocabulary Test (EVT)
- Goldman-Fristoe Test of Articulation (G-F)
- Preschool Language Scale (PLS)
- Comprehensive Test of Phonological Processing (CTOPP)

# Issues with Standardized Tests

- Not available for all ages and all language components (example: preschool and pragmatics)
- Are test valid? Reliable? Accurate?
- How low a Standard Score do you need to qualify for services?

# Systems Model

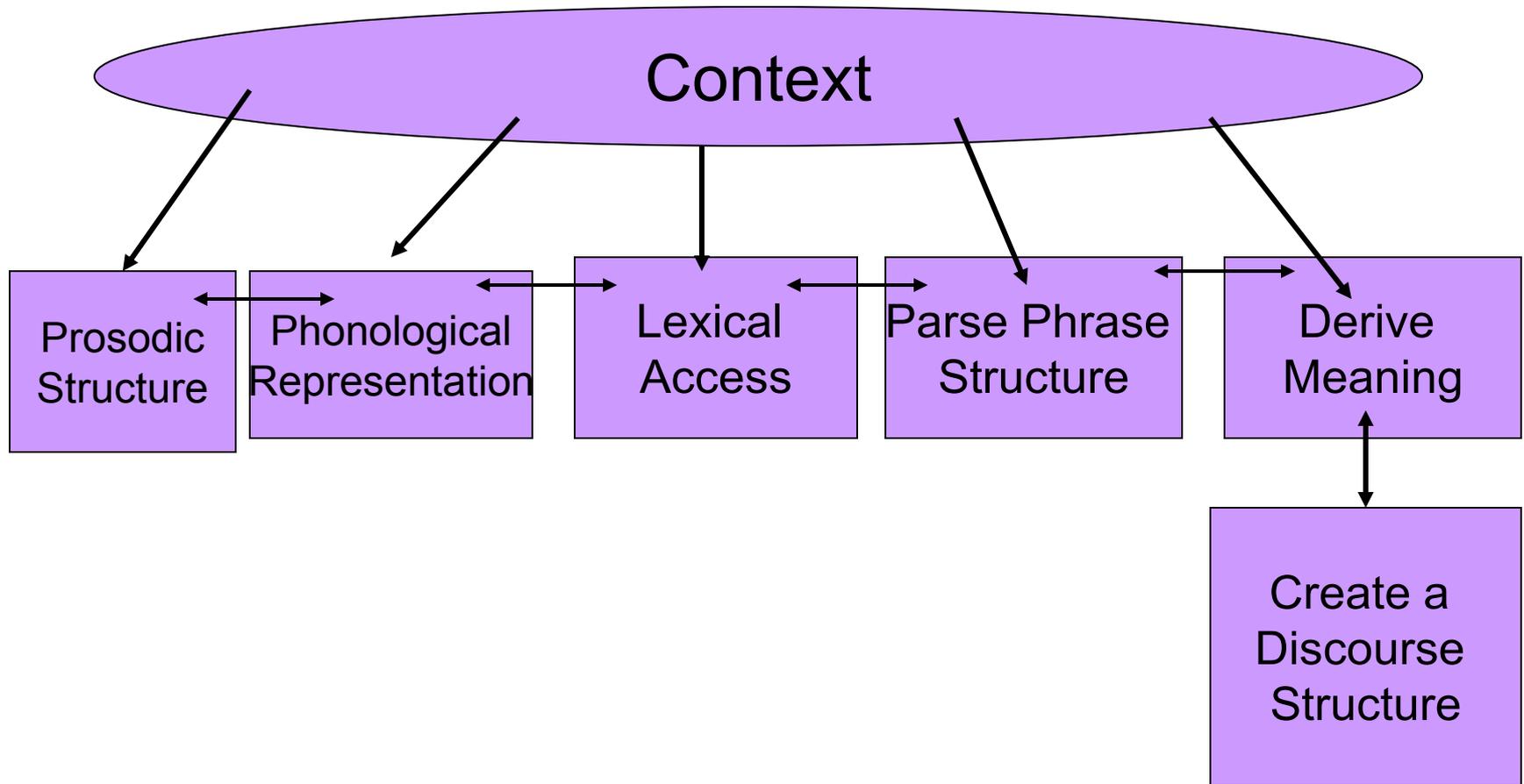
- Looks at not only what is wrong with the child but how the **environment** contributes to the child's difficulties
- What are some environmental factors that might contribute to a child with a language impairment's difficulties progressing with language acquisition?

**Labels, Labels, Labels**

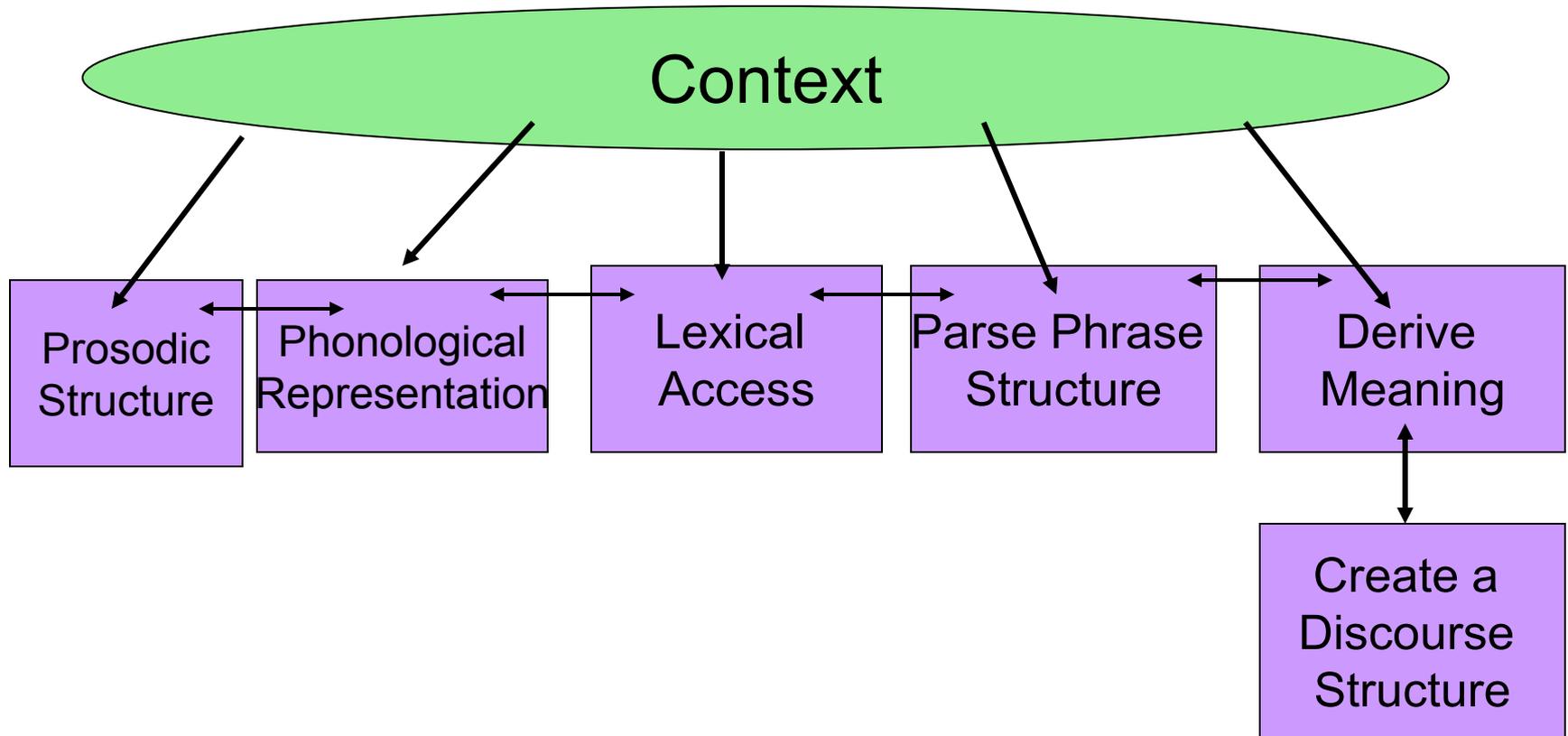
# The Semantics of Historic Labels

- Childhood Aphasia
- Language Delay
- Language Disorder
- Language Impairment
- SLI: Specific Language Impairment
- LLD: Language Learning Disability
- OWL: Oral Written Language Impairment

# A Simple Model of Comprehension

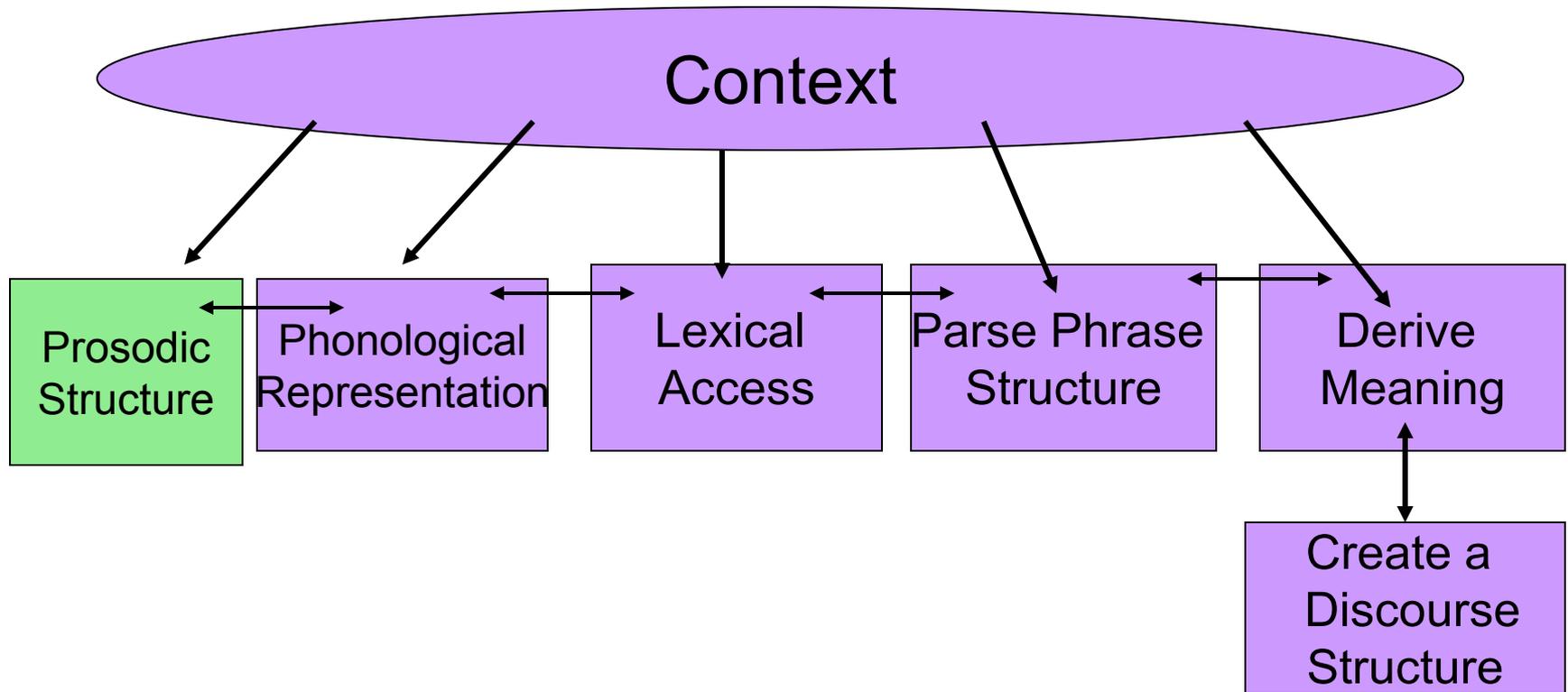


# What do those terms mean?



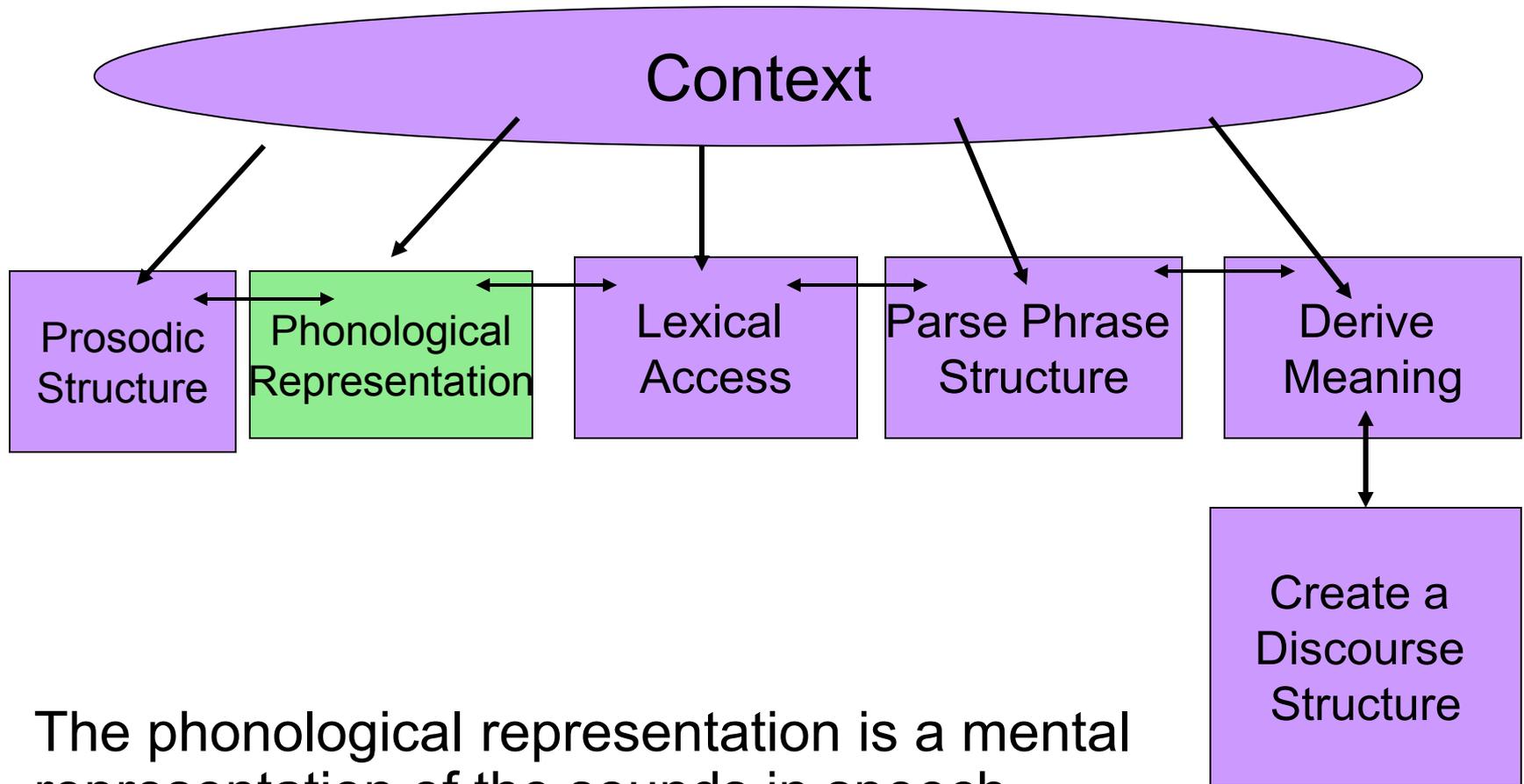
- Context is the environment within which the person is listening (the pragmatics, the knowledge base of the speaker and listener, the ongoing discourse). The context can also refer to the cognitive environment (e.g., memory; attention).

# What do those terms mean?



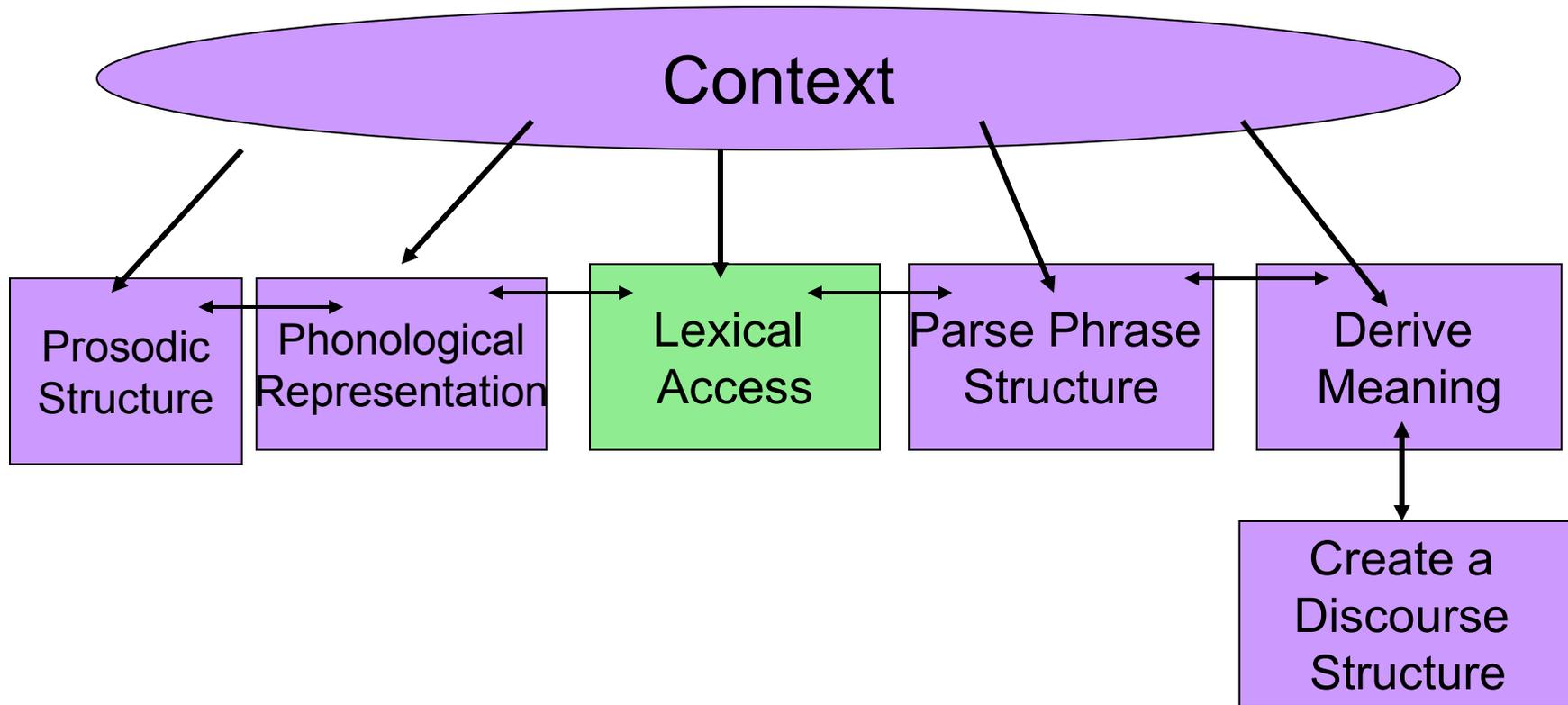
- The prosodic structure is the rhythm and intonation of speech that chunks information (syllables, words and phrases) and signals important information with pitch.

# What do those terms mean?



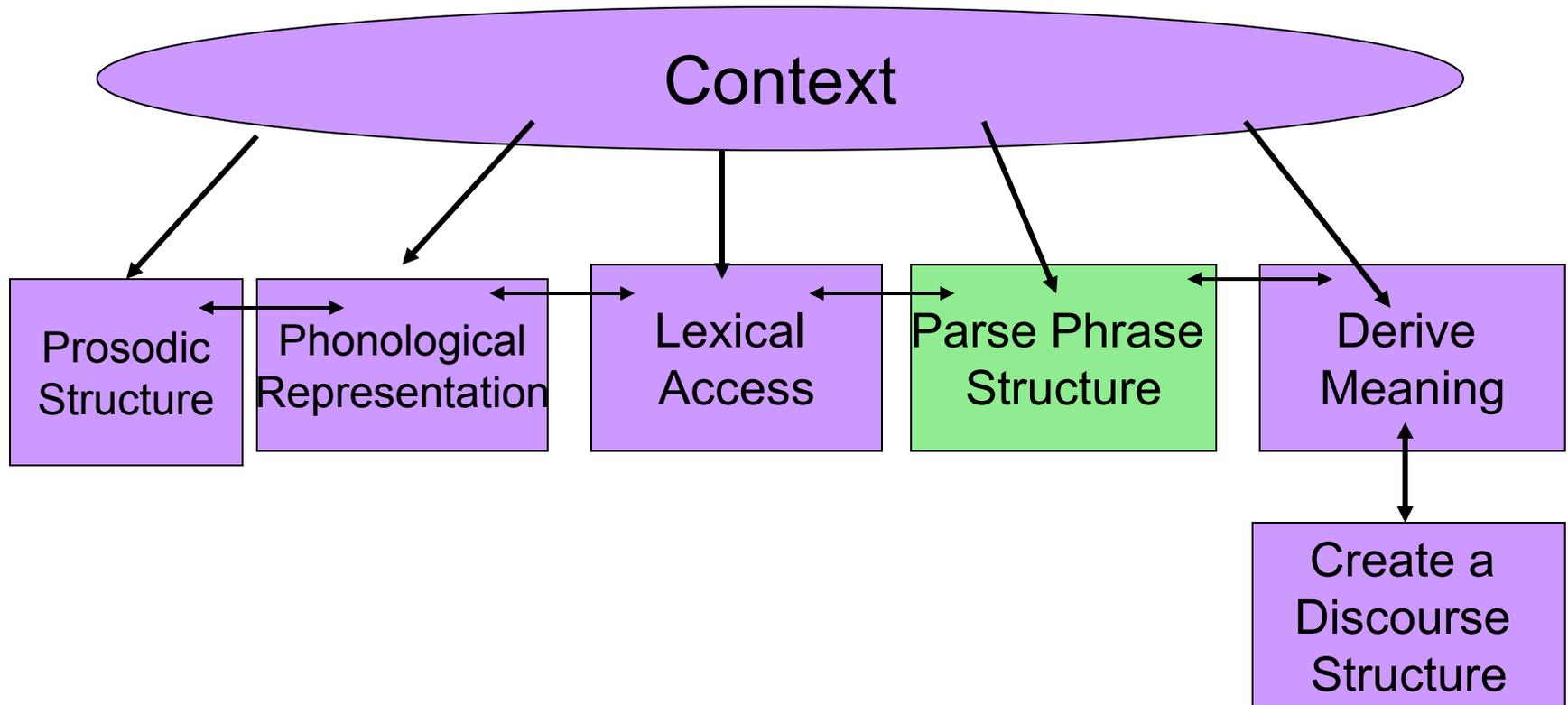
- The phonological representation is a mental representation of the sounds in speech.

# What do those terms mean?



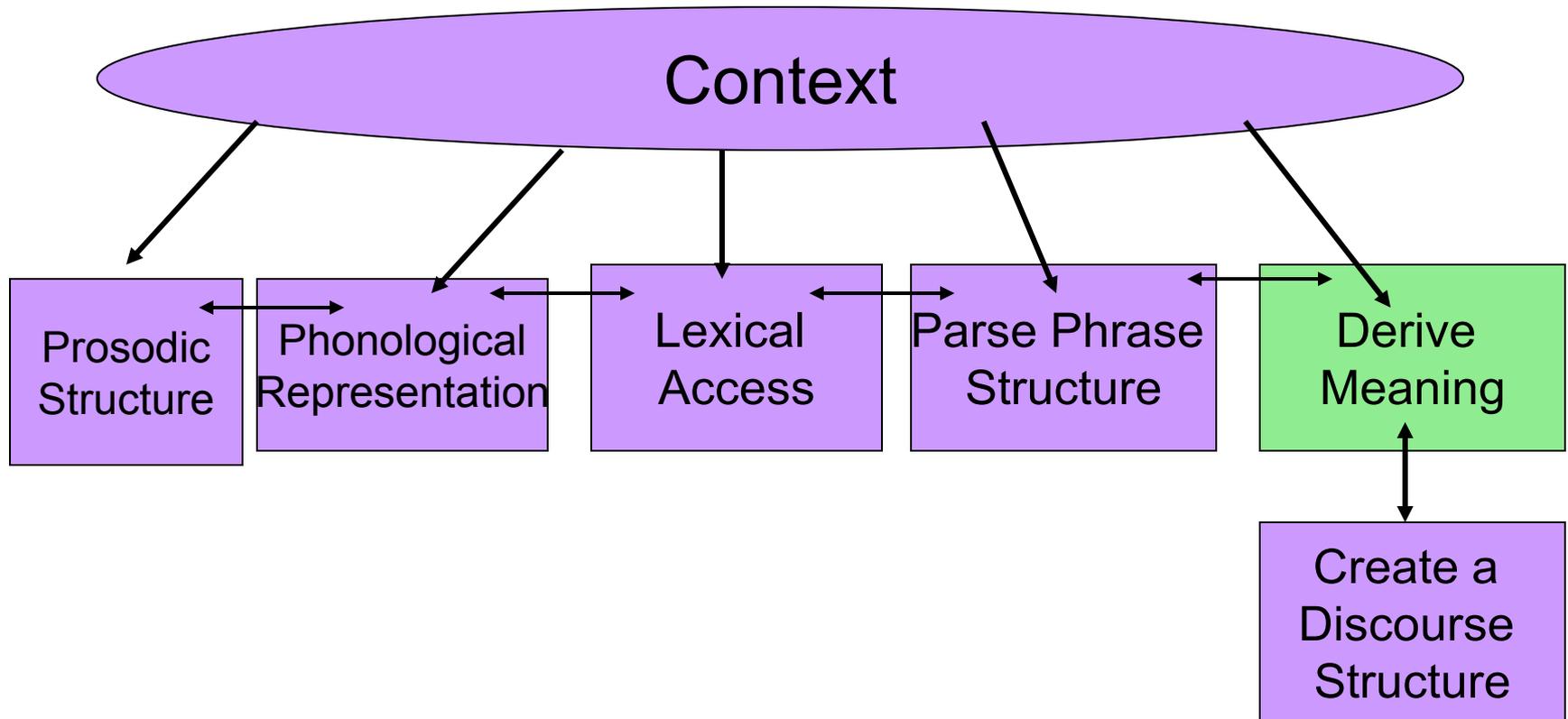
- Lexical access refers to the process of recognizing words in the mental lexicon and selecting them as the phonological representation matches.

# What do those terms mean?



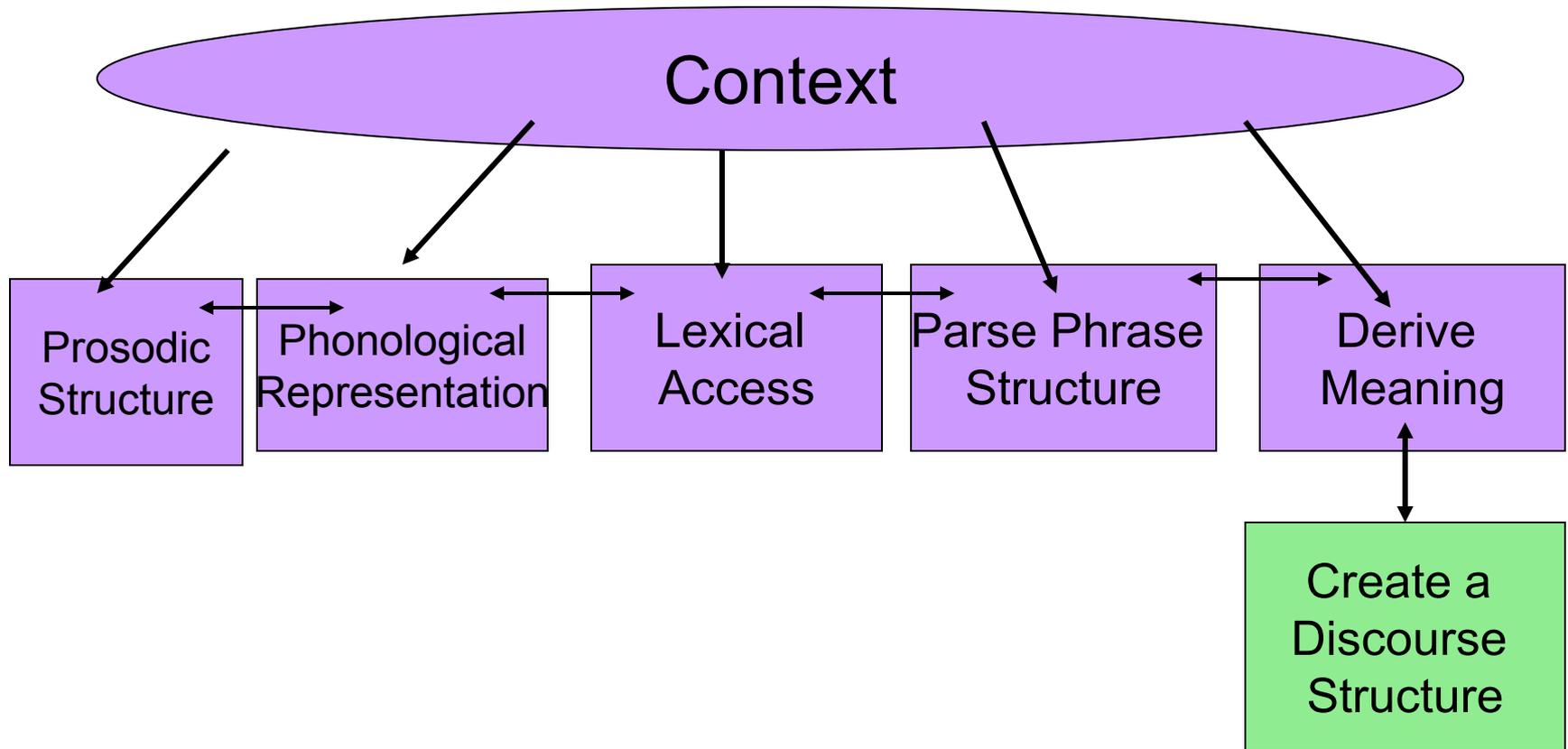
- Parsing the phrase structure refers to creating a mental representation of the syntactic structure of the utterance.

# What do those terms mean?



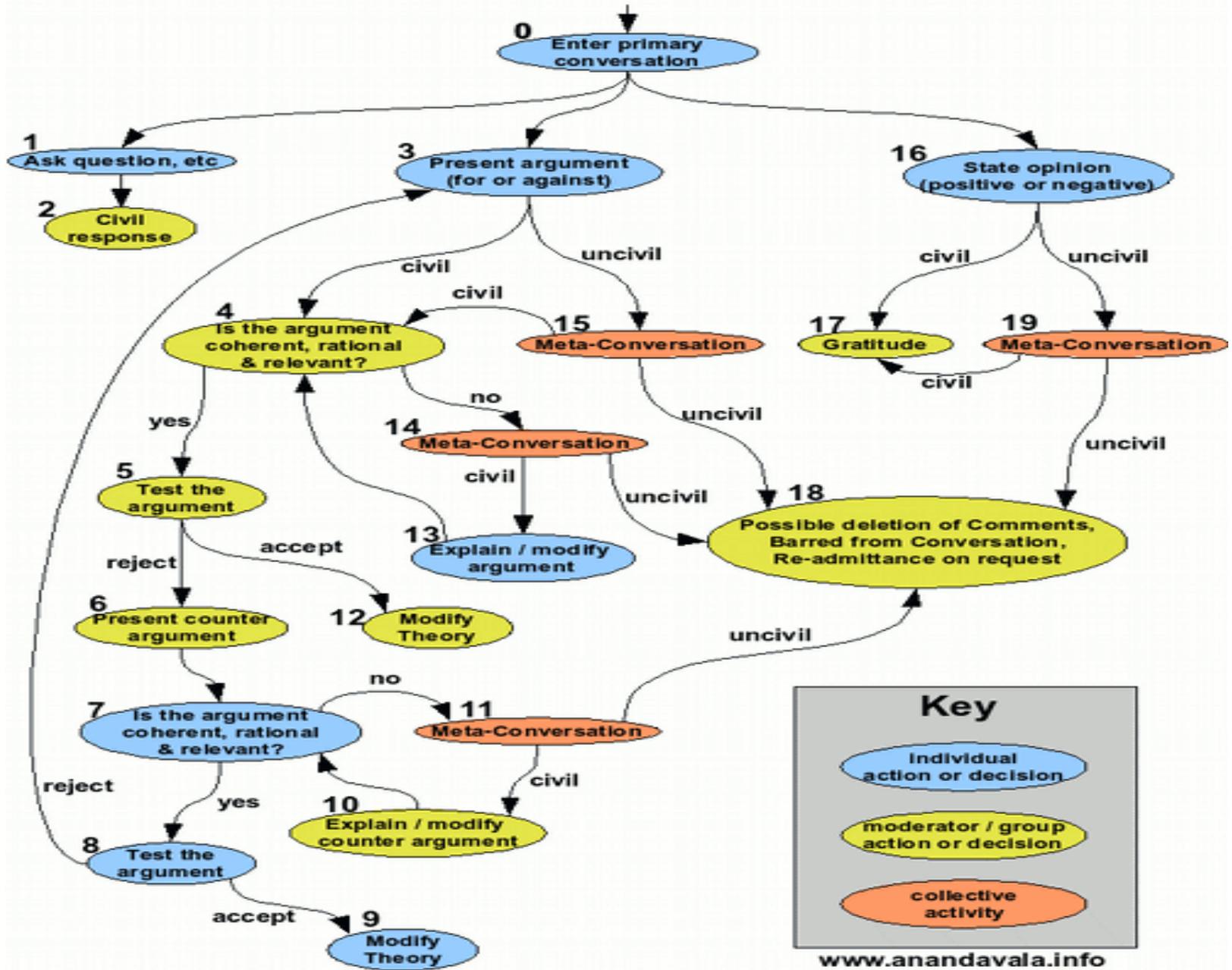
- Deriving meaning is the process of interpretation of the utterance.

# What do those terms mean ?

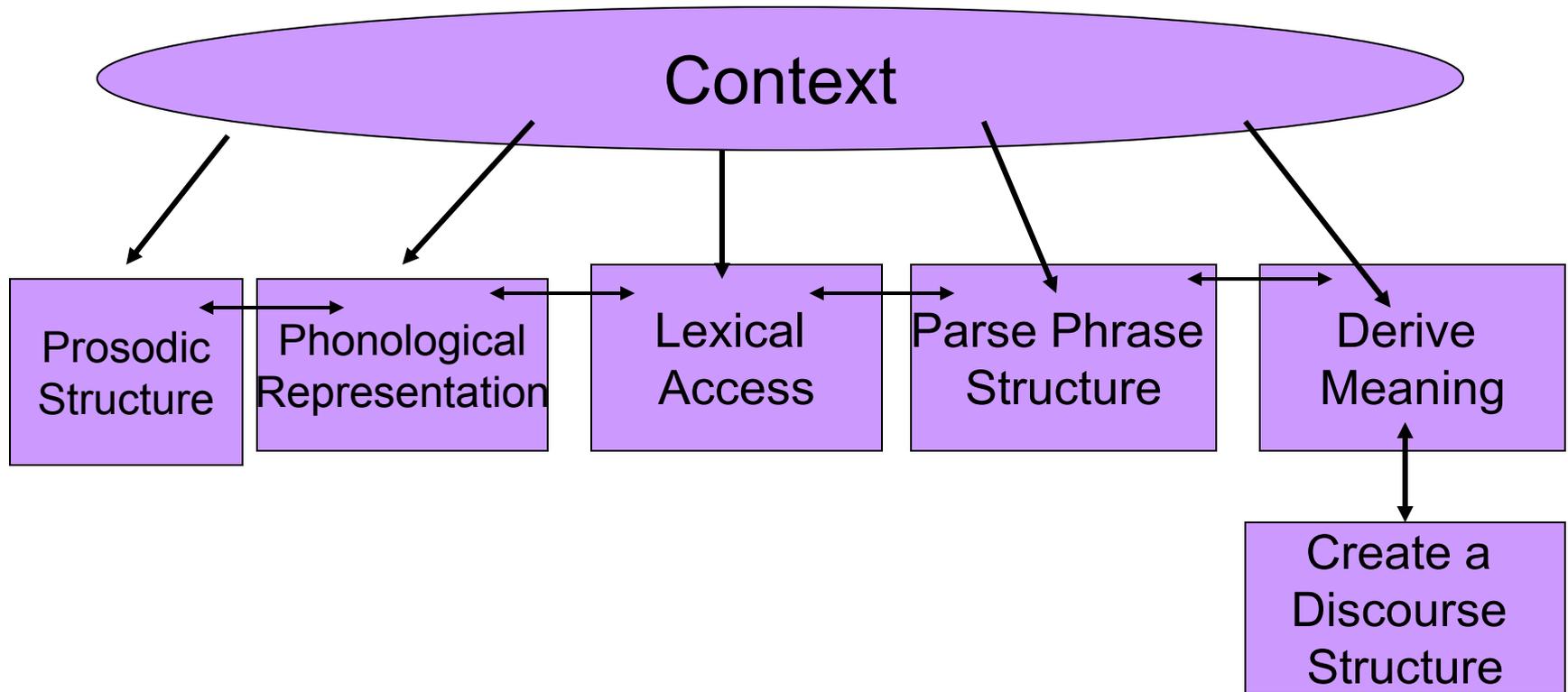


- The discourse structure is the mental representation of the conversation; updated during each exchange.

# Flow-Chart for a Rational Discourse

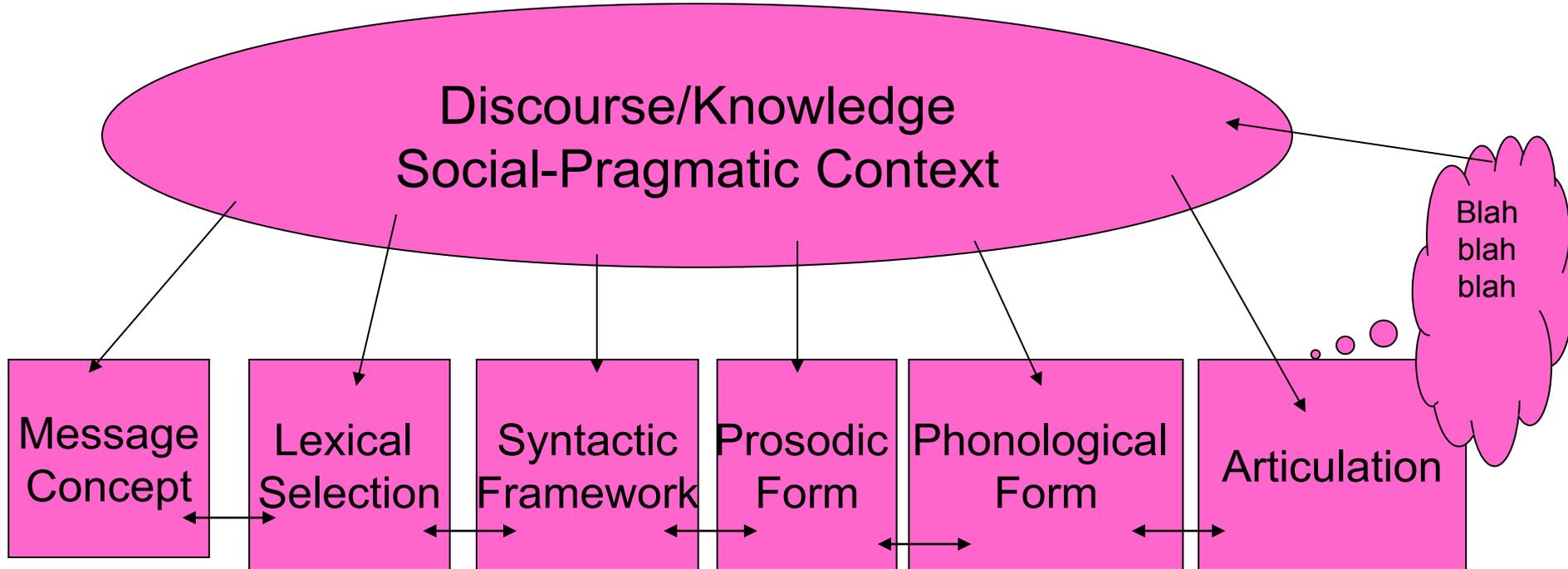


# What do those arrows mean?



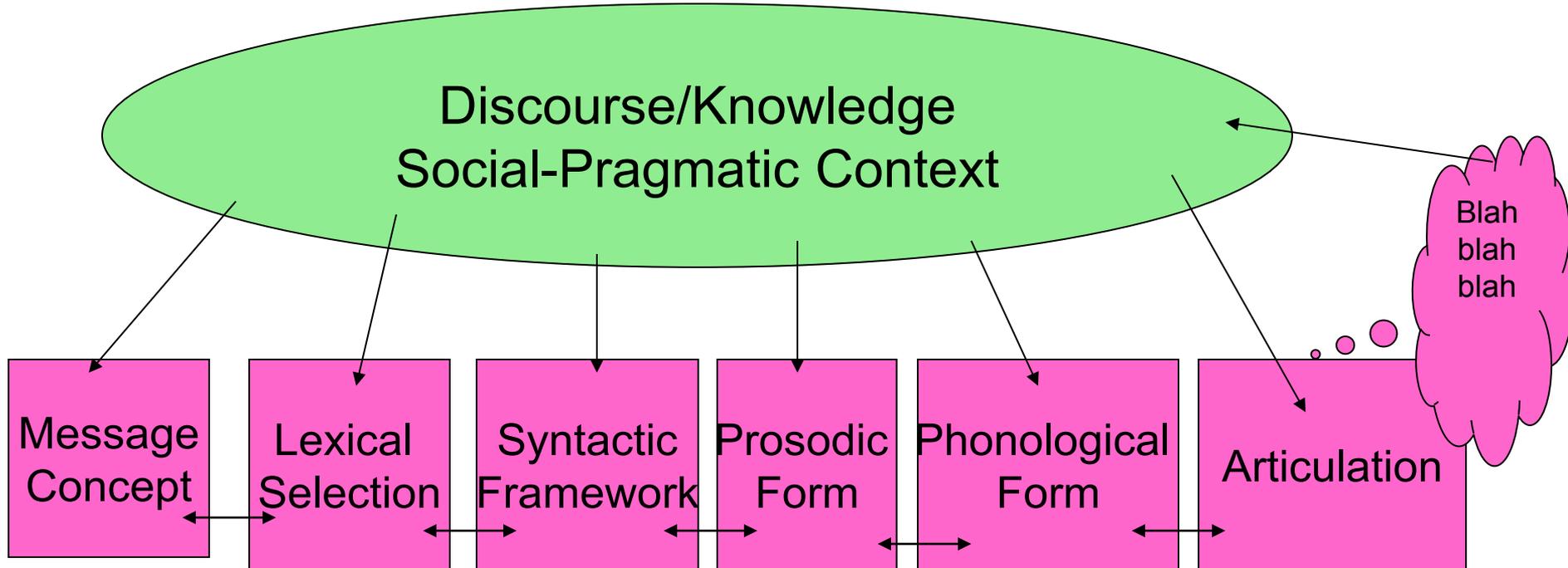
- The arrows show that the information flows back and forth. That is, the different levels influence one another.

# A Simple Model of Production



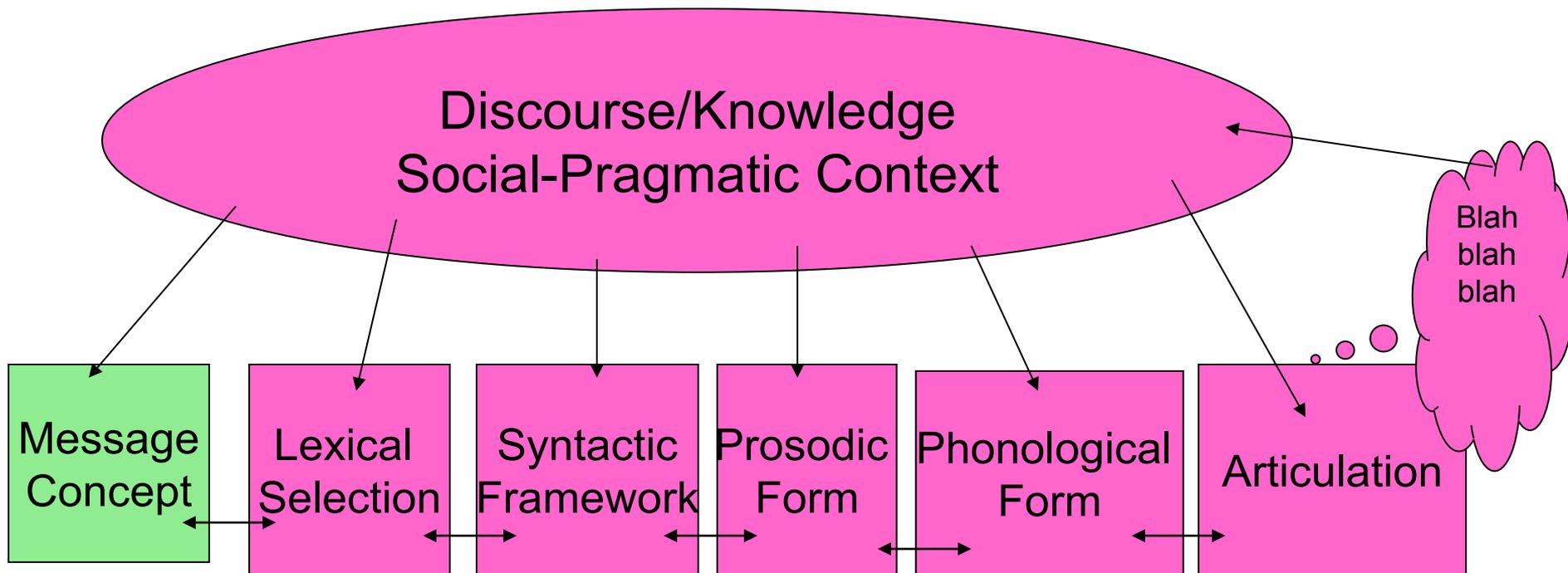
# What do those terms mean?

- The social-pragmatics and conversation context affects the message to be conveyed at all levels.



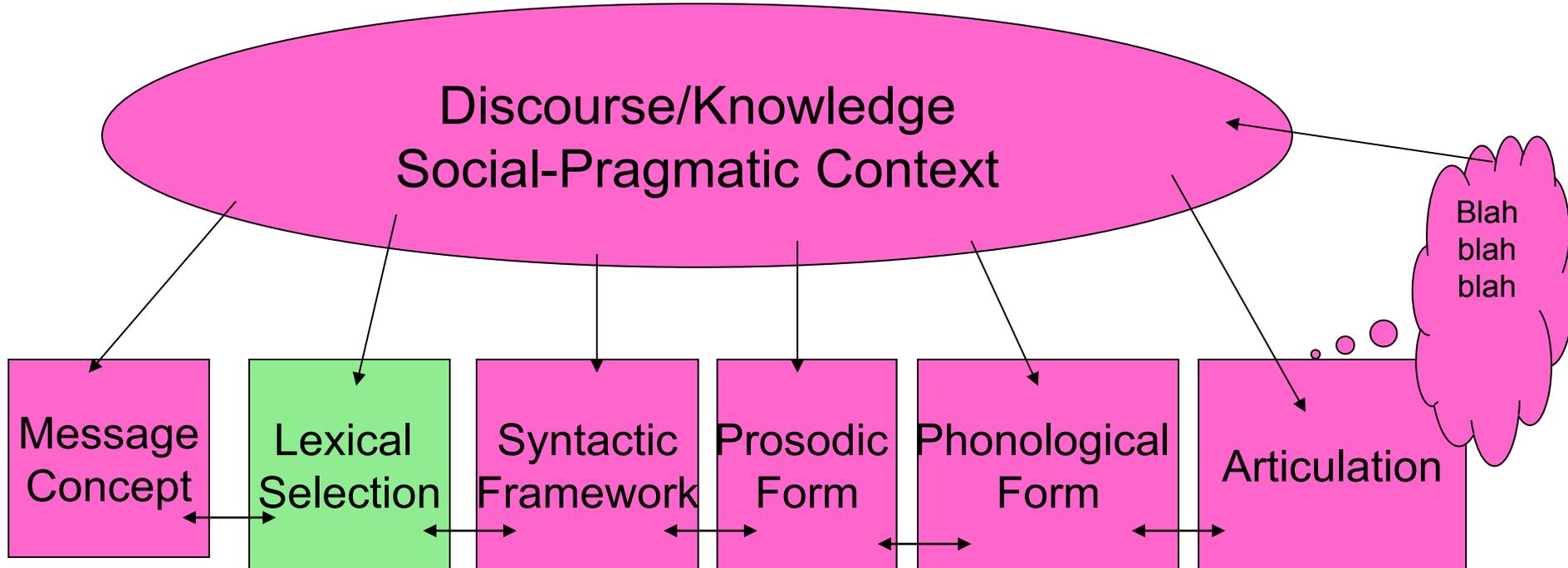
# What do those terms mean?

- The message concept is the idea to be expressed.



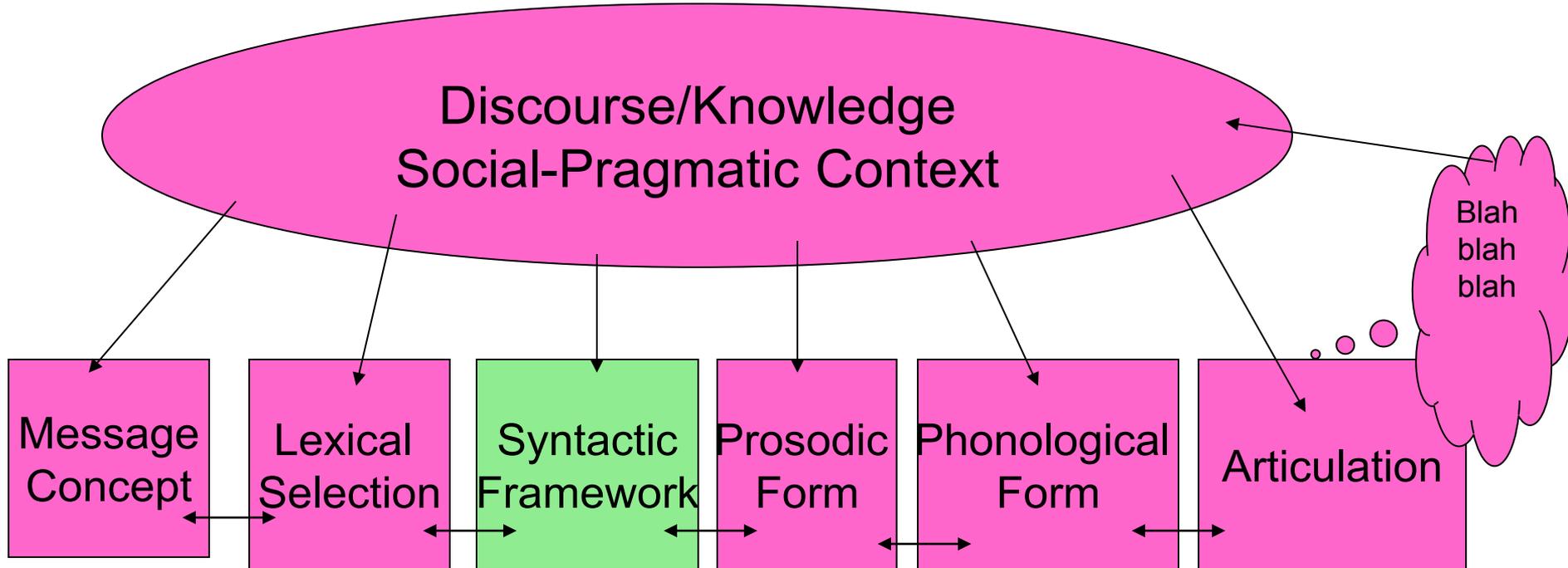
# What do those terms mean?

- The words to convey the message are selected.



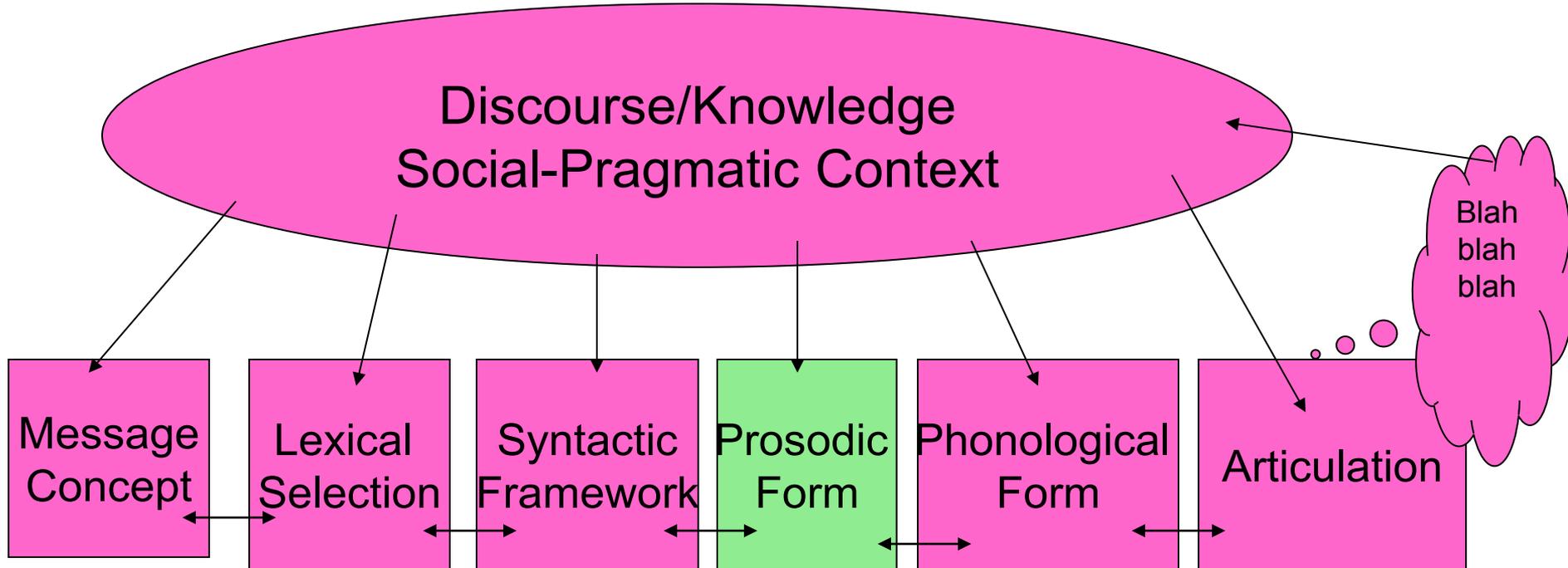
# What do those terms mean?

- With the words, the syntactic phrase structure can be constructed.



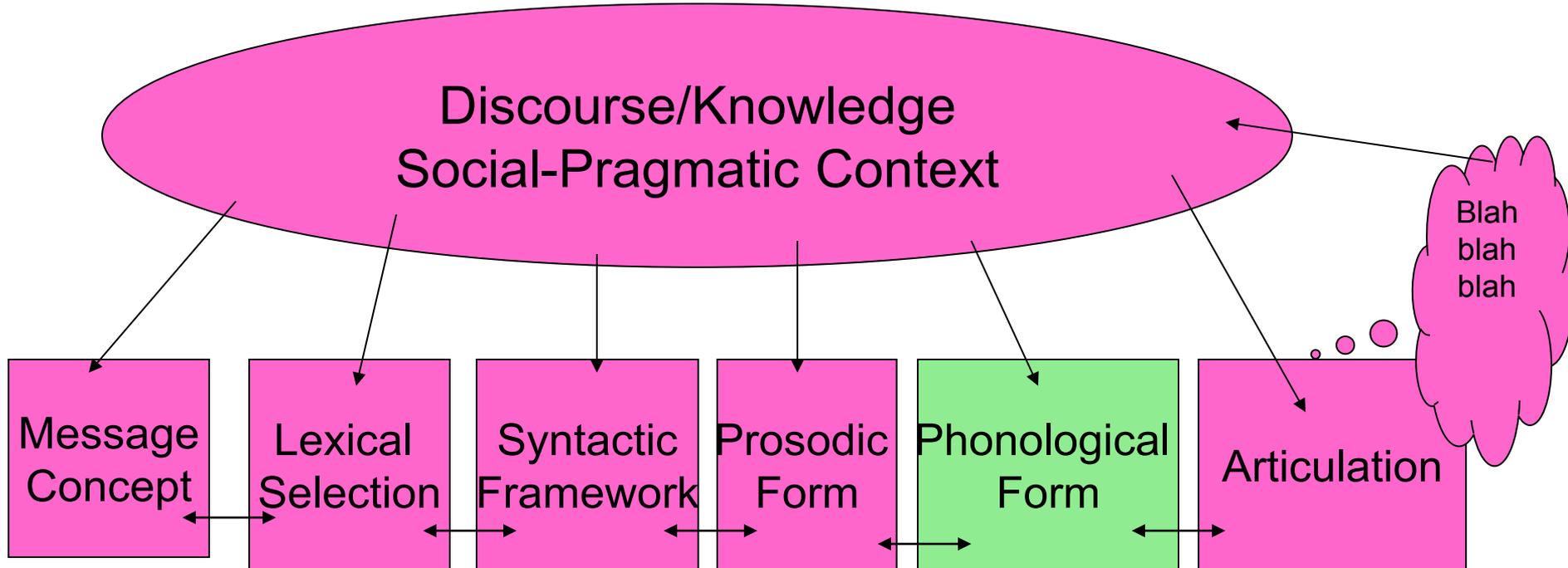
# What do those terms mean?

- A prosodic structure of the syllables, syntactic phrases, semantic highlights is constructed.



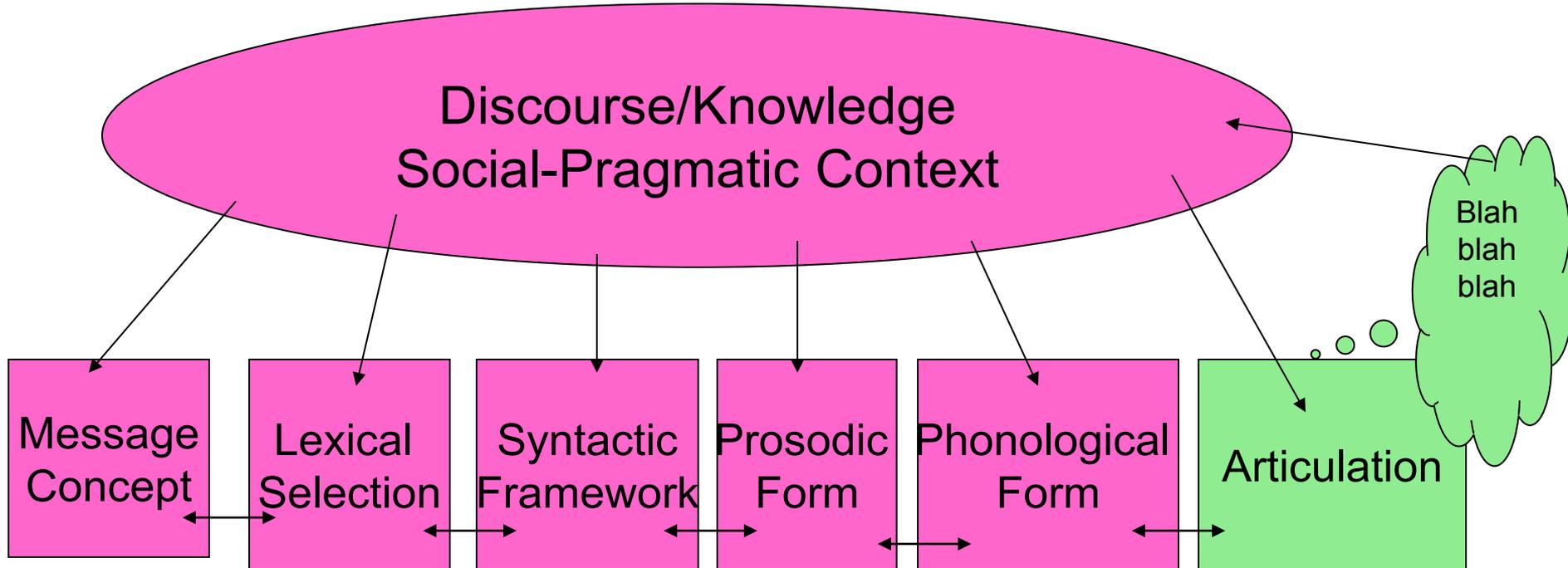
# What do those terms mean?

- The specific sounds of the utterance are constructed for the words in prosodic structure.



# What do those terms mean?

- The motor plan is executed to create the utterance.



# Levelt's (not so simple) Model of Production

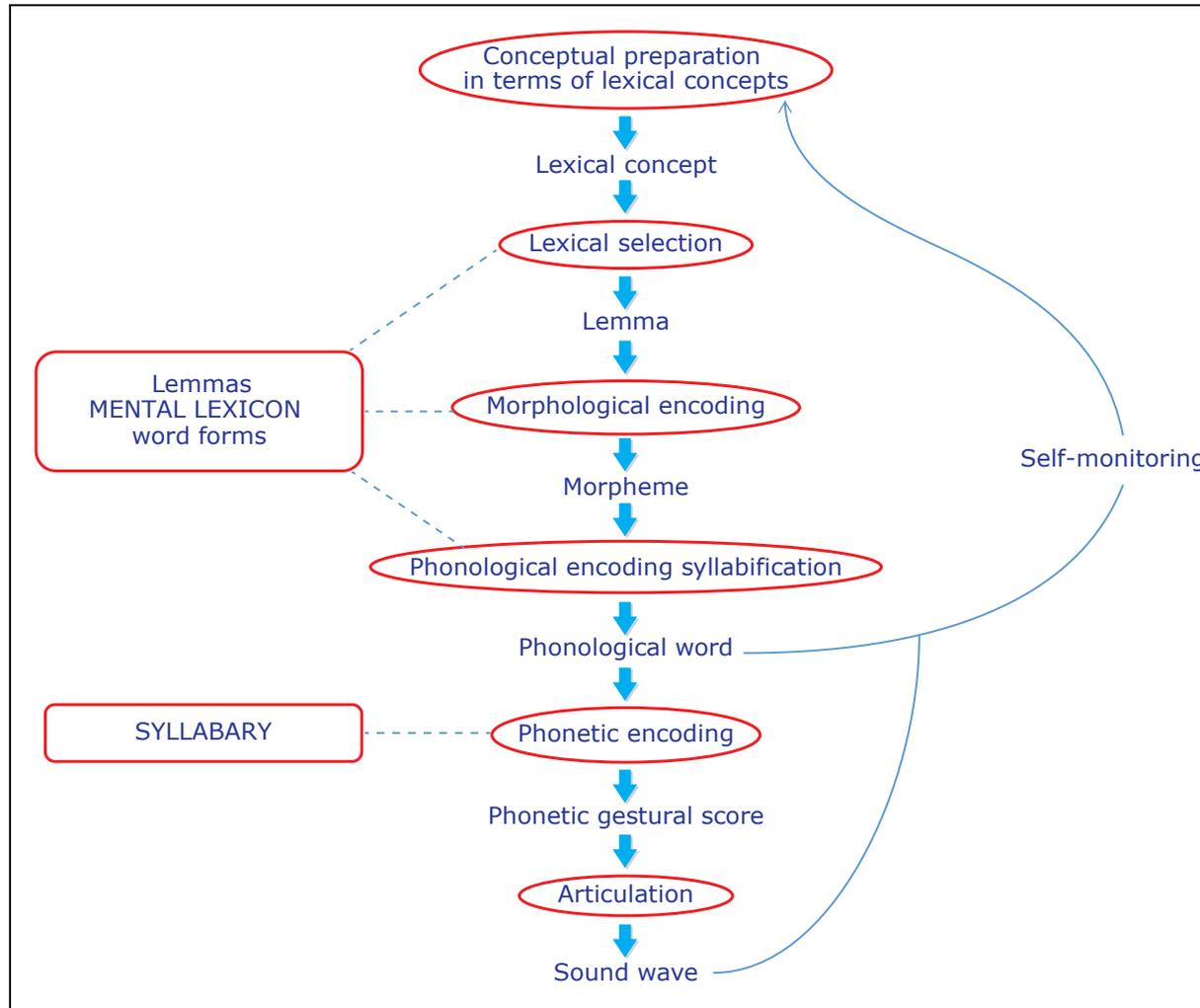


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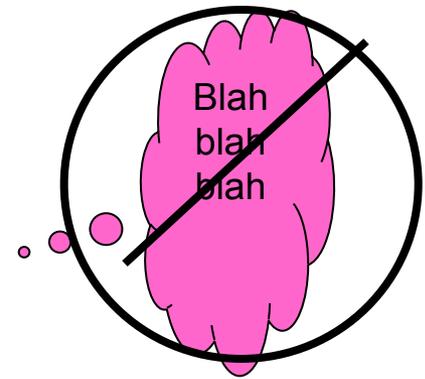
# Late Talkers

# Late Talkers

## A Simple Definition

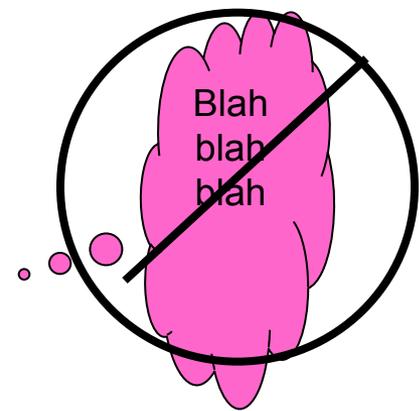
- Children with communication skills delayed in relation to developmental norms by more than 6 months

# Late Talkers



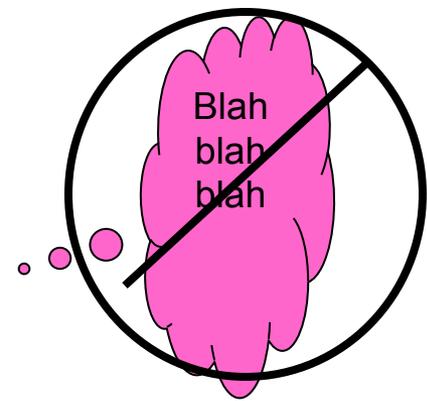
- Many are simply ‘delayed’ and are WNL with time and/or therapy
- Others have true speech and/or language disorders
- Until there is some output, it is difficult to diagnose any form deficits in production
- However, comprehension can be assessed/addressed

# Late Talkers



- Zubrick, Taylor, Rice 2007
- Looked at 1,766 Australian children aged 24 months
- Examined biological, behavioral, family and socio-cultural variables
- 19% of children were Late Talkers
- Half of these children will ‘catch’ up by 3years

# Late Talkers



- Family history of late talkers
- Less likely to be only children
- More likely to be male
- More likely to have premature status
- Gross and fine motor development correlates
- Negative psychological correlates

# When to Refer Late Talkers

- **Expression:**
- No words at 18-24 months
- 10 or fewer words at 24 months
- No two word combinations at 24-30 months
- No unique sentences at 36 months
- Judged to be difficult to understand at 4+years
- Multiple errors in expressive syntax at 4+ years
- Overt frustration communicating at any age over a period of months

# When to Refer Late Talkers

- **Comprehension:**
- Does not follow simple familiar commands at 18-24 months
- Does not point/look towards familiar pictures/objects named by a parent at 18-24 months
- Does not respond to name at 18 months
- Parent reports comprehension problems in children 4 and older

# **Specific Language Impairment**

**(Stark and Tallal, 1981)**

- **Children with standardized language scores at least 12 months below chronological age or mental norms who DO NOT exhibit any of the following:**
  - Hearing impairment
  - Significant emotional or behavioral problems
  - Performance IQ more than 1 SD from the mean
  - Obvious neurological deficits
  - Severe phonological/articulation deficits

# Specific Expressive Language Impairment

- Late production of first words
- Fewer commenting and joint attention acts
- Late production of word combinations
- Reduced syntactic complexity in later development
- Reduced narrative skills at later ages
- Possible written expression issues in later grade school

# Expressive-Receptive Language Impairment

- Same issues as Expressive Language Impairment +
  - Vocabulary comprehension problems
  - Sentence comprehension problems
  - Decreased phonological processing skills (in some children)
  - Probable reading comprehension issues

# DLD

- **Developmental Language Disorders**  
(Kamhi): children with lower IQs and more concomitant problems than children with SLI used as research subjects. These children are more common on clinician caseloads.

# Mental Retardation

- Mild: IQ 50-70
- Moderate to Severe: IQ 20-49
- Profound: IQ below 20
- Known Causes:
  - FAS
  - Chromosomal Abnormalities
  - Trauma to the brain before or after birth

# School Age Labels

- Learning Disability
- Language Learning Disability
- Dyslexia

# Learning Disability

- A generic term that refers to a heterogeneous group of disorders manifested by significant *unexpected* difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities or of social skills. Involves a discrepancy between potential (often IQ scores) and achievement or between areas of development (verbal and nonverbal IQ etc.)

# Language Learning Disability/Disorder

- A learning disability that primarily involves issues with language and in school effects the ability to read, write, or spell.

# Dyslexia/Written Language Disorders

# Types of reading disabilities

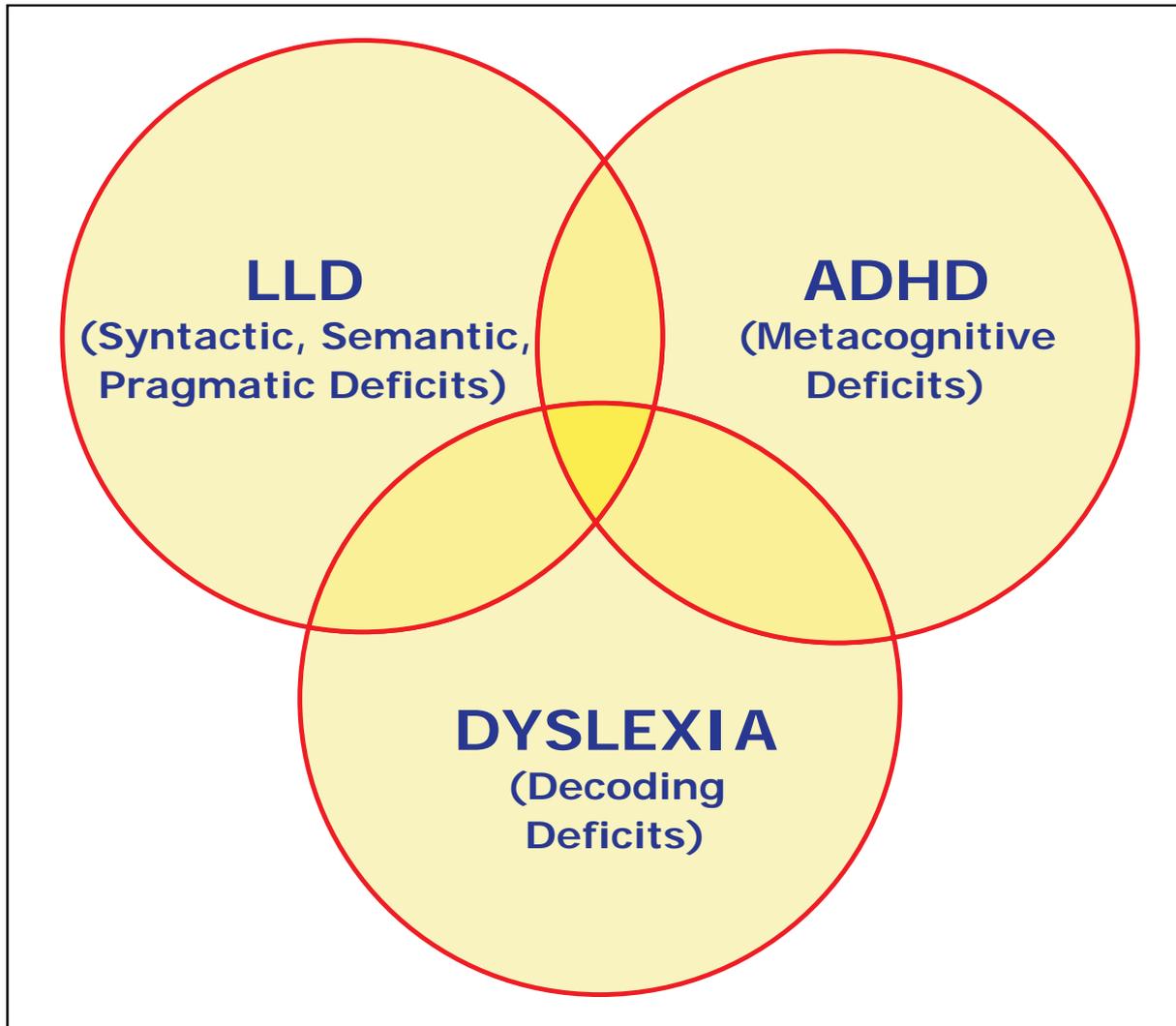


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# Early Literacy Development

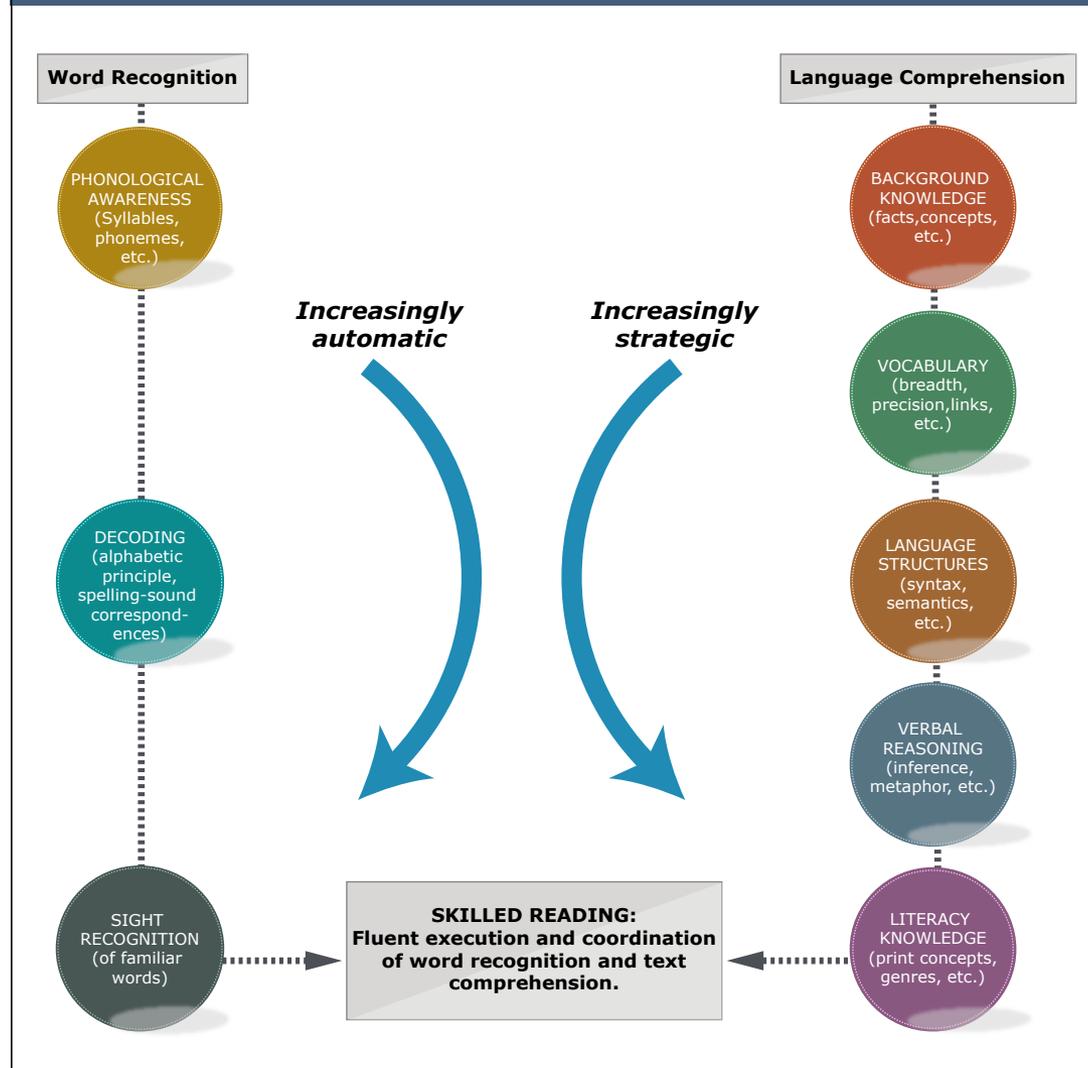
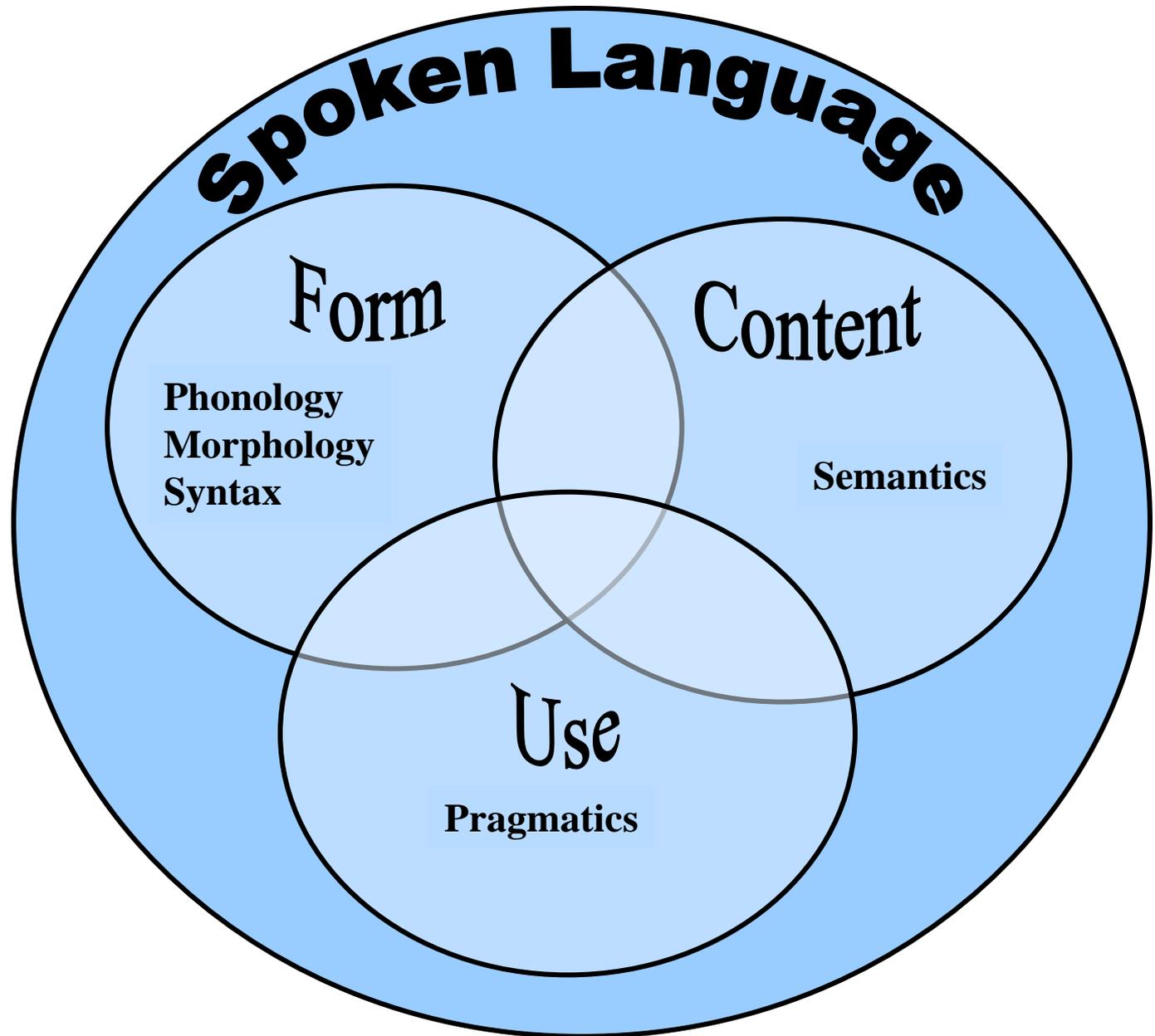


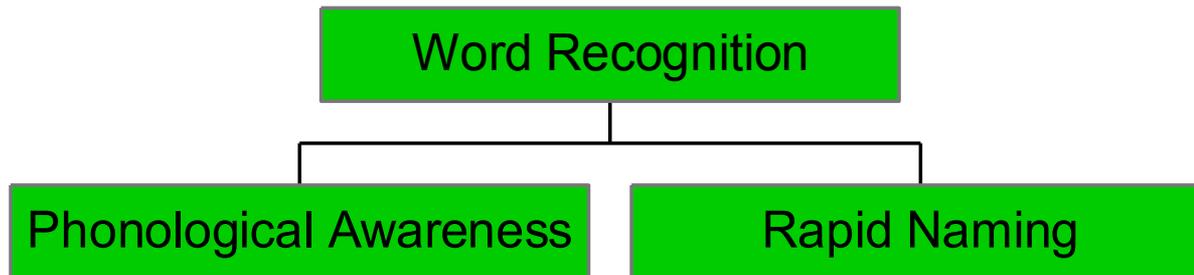
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# Dyslexia

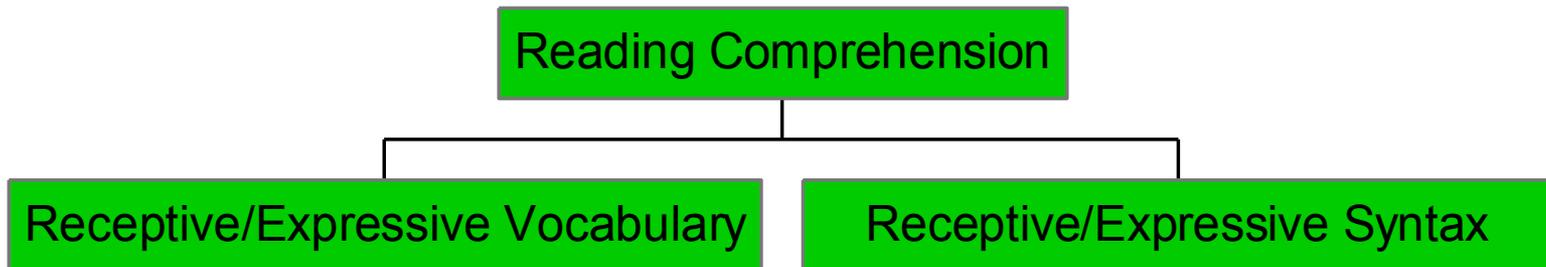
- A specific language based problem with phonological awareness/phonological processing ability that results in problems with single word decoding.



## Kindergarten Oral Language Predictors of Grade 2 Reading Abilities



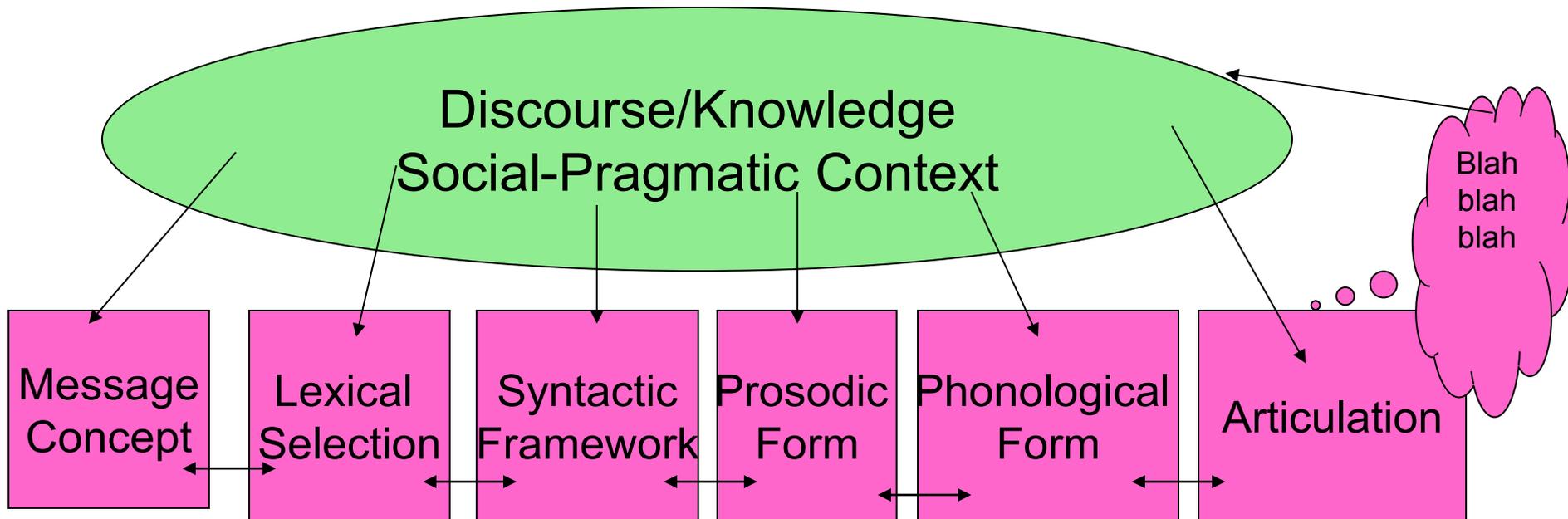
## Kindergarten Oral Language Predictors of Grade 2 Reading Abilities



# Autism Spectrum Disorders

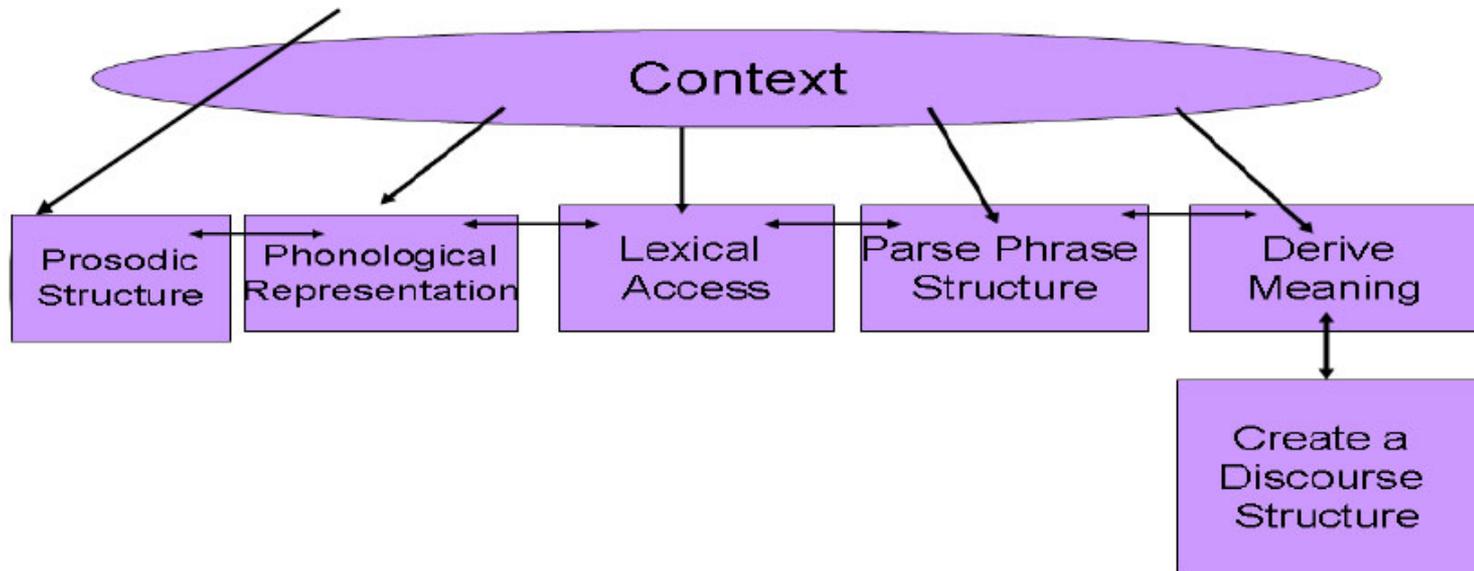
# Autism Spectrum Disorders

- These disorders arise from problems with the social pragmatic realm; this affects everything about expression of language.



# Autism Spectrum Disorders

- As well as everything about comprehension of language; remember the bidirectionality of the arrows



# DSM-IV Constellation of Pervasive Developmental Disorders

Autism

Asperger's

Rett's

PDD Not  
Otherwise  
Specified (NOS)

Childhood  
Disintegrative  
Disorder

# PDD Criteria – DSM IV

Three core features:

1. Impaired social interaction
2. Impaired verbal and nonverbal communication
3. Restricted and repetitive patterns of behavior

# DSM IV Criteria Current

- <http://www.autism-watch.org/general/dsm.shtml>

# Severity

- Ranges from severe to subtle social-communication dysfunction
- The most severe form was first described by Kanner in 1943
- Asperger described the mild form of the disorder that carries his name in 1944
- $\frac{3}{4}$  have mental retardation (IQ below 70)

# Prognosis

- Life-long disability
- Higher IQ and good language before age of 5 better prognosis
- Adults with near normal IQ adapt from poor to good, but low IQ do not adapt well
- Verbal skills are strongest predictor of social-adaptive success

# Prevalence

- In the 1970's prevalence was considered to be 5/10,000
- Mid-1990's rates rose steadily
- In 2003, 1/166 to 1/250
- Other studies as high as 1/100
- Males 3:1 in nuclear autism
  - 5:1 in milder forms

# Why the increase?

- Diagnostics (the more extensive the clinical information, the higher the incidence)
- Broadening of diagnostic criteria (“spectrum”)
- We don’t know...

# Other Features

- Hypotonia
- Sensory Processing Issues
- Dangerous Behaviors
- Echolalia

# Echolalia

- Many children/adults with ASD show some form of echolalia
- Can be immediate repetition of what is heard
  - Q: 'what do you want?' A: 'what do you want?'
- Can be delayed and involve repeating lines from
  - television/movies ( 'I am plankton and I am SMALL' )
  - cell phone prompts ( 'for English, press one' )
  - parental commands ( 'brush your teeth' )

# Speech Disorders

# What is an Articulation Disorder?

- Difficulties with placement of the articulators for speech sound production.
- Also called a ‘Phonetic Disorder’

# What is a Phonological Disorder?

- Impairment of and individual's representation and organization of phonemes within the language system
- Also called a 'Phonemic Disorder'

# developmental phonological disorder

Is a disorder in knowing the 'rules' about where speech sounds are placed in words.

The problem is at a linguistic level: 'in the mind' .

Not at a motor / movement / anatomical level.

# How does Phonological Intervention Differ From Articulation Therapy?

- Error **patterns** are targeted rather than single sounds.
- **Multiple sounds** are worked on at the same time.
- Objectives are targeted in a **cyclical** manner rather than working to criteria.
- Patterns are generally targeted in **words** initially rather than isolation.
- **Generalization** of correct productions occurs more easily across contexts.

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