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## LEXICAL-SEMANTIC SYSTEM OF THE VISUALLY IMPAIRED AND THE AUDITORY IMPAIRED

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### Abstract

This study explores the mental organization of Lexical-Semantic System between three groups of Thai children -- the blind group, the deaf group, and the normal children. Three experiments were carried out to investigate the differences between each group.

The first experiment involves the use of word association test in exploring the semantic systems of deaf children and hearing children activated by visual words and blind children and sighted children activated by auditory words. In this experiment, the subjects were asked to name any words which are semantically related to the designated groups of words (30 nouns, 30 verbs, and 30 adjectives) within a limited time by using DMDX program. The associative responses can be classified into four categories - taxonomic semantic relations, non-taxonomic semantic relations, non-semantic relations and errors.

Taxonomic semantic relations are superordination, subordination, co-ordination, synonymy, opposite and similarity.

Non-taxonomic relations include part-whole relation, whole-part relation, entailment, physical property relation, functional property relation, manner relation, thematic relation, resultative relation, place relation, time relation, event relation, verb serialization relation, attitude/value/ emotion relation and specific experience relation.

Non-semantic relations include consonant association, vowel association, consonant and vowel association, consonant and vowel and tone association, compounding and idioms.

Errors are in the form of sound/form pattern errors, repetition, reduction, no response and definition.

As regards nouns, most of the associative responses given by deaf children involve items with compounding (e.g. /mææw/<cat>→/náam/<water> = /mææw- náam/ <seal>) and collocation (+ predicate) (e.g. /wua/<cow>→/kin-jâa/<eat grass-predicate>) while the hearing groups responses are predominantly items with co-ordination (e.g./mææw/<cat>→/măa/<dog>) as that blind children and sighted children give to nouns.

In terms of verbs, most of the associative responses that deaf children, hearing children, blind children and sighted children give to verbs is collocation (e.g./dæn/<walk>→./mææw/<cat>)

Activated by adjectives, most of the associative responses that deaf children give to adjectives is physical property relation as hearing children and sighted children (e.g./khăaw/<white>→./kra-dàat/<paper>) while most of the associative responses that blind children give to adjectives is opposites. (e.g./khăaw/<white>→/dam/ <black>)

The findings indicate that the lexical-semantic system of the visually-impaired tends to be taxonomic while that of auditory-impaired is non-taxonomic.

The second experiment involves the use of definition test to investigate whether the subjects define words by using taxonomic organization knowledge or not. To this end, concept types of definitions referred to in ISO/R 1087-intensional definition, extensional definition and contextual definition have been used. In this experiment the subjects were asked to define 30 nouns and 30 verbs. It is found that most of definition types that blind, hearing and sighted children used are intentional definition /mæ:w/ → pen sàt khon chop líaŋ/ (cat → a small animal

that people often keep as a pet → using taxonomy organization knowledge) while deaf children prefer contextual definition / mə:w kin nũu/ (cat → cat eat rat. → not using taxonomy organization knowledge).. The result of this experiment confirms the result of the first experiment.

The third experiment involves the use of comparison test to see whether visually impairment has an impact on association property to things or not. In this experiment, the subjects were asked to associate 30 adjectives to things by using the pattern ‘attributive term as .....’ (e.g. as red as). It is found that that blind children can only associate the designated attributive terms to things whose attribute has to be visually perceived, for example, /khiăw <green> mwan <as> mæ:ŋ-tháp < a beetle of the genus Buprestis, having brilliant green integuments >

The results from the three experiments are discussed as follows: The lexical-semantic system of the blind group tends to be taxonomy-oriented while that of the deaf children is non-taxonomic. In this regard, the semantic system of the visually-impaired is closer to the sighted children than the auditory impaired group to with the hearing ones.