

LANGUAGE DEVELOPMENT OF CHILDEN WITH INTELLECTUAL DISABILITY: A REVIEW OF RESEARCH STUDIES IN THAILAND AND THE INTERNATIONAL ARENA

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Abstract

The goal of this article is to present the current status of language development research in children with intellectual disability (CID) in Thailand and to what extent this area of study has been explored internationally. The article starts with the definition of “intellectual disability” in order to clarify the focus of this study which is a group of children who, in the past, were referred to as “mentally retarded” (MR). The review covers some selected research studies in Thailand and international platform. On the one hand, in Thailand, the area of ‘language development’ received very minimal attention from Thai researchers as only one study is found. Major attention for ID research in Thailand focused on developing children’s learning skills rather than exploring the status of their language faculty in different linguistic levels such as, phonetics, phonology, morphology, syntax, semantics and pragmatics. The studies geared very much towards education rather than linguistics. The interest in this area was limited in classroom research by teachers of special education schools in Thailand and some educational research of university graduates with similar research methods. Some strengths and weaknesses of these studies as well as suggestions for future studies were discussed. On the other hand, selected research articles from international journals and textbooks focused their interest in the examination of descriptive issues of how performance of children with intellectual disability implied their internal linguistic competence such as the delay of some phonological development features and some limited ability to acquire complex grammatical and linguistic units. Pragmatic development was also another significant issue.

Keywords: Language development, Intellectual disability, Children, Thailand

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Introduction

The study of language development has a long history (Ingram 1989:7-25). Researchers of first language acquisition have been exploring and reporting internal language faculty of children through the use of a variety of instruments and techniques such as parental diary (Preyer 1889, Vinson 1915 Smith 1973), questionnaires (Smith 1926, McCarthy 1930, Fenson, Dale, Reznick, Bates, Thal, and Pethick 1994, Bates, Dale, and Thal 1995), video interaction (MacWhinney 2020), storytelling (Berman and Slobin 1994, Reese 1995, Reese, Sparks, and Suggate 2012), etc. Findings of studies of language development in various linguistic levels-phonetics, phonology, lexical, morphology, syntax, semantics and pragmatics-shed some light on the quest of how children acquire their mother language. Such understanding leads to useful applications in education and medical circles. Language teachers and trainers make use of those findings in developing effective language teaching techniques. This also extends to the case of second language acquisition and bilingualism. Being beneficial for medical aspect, the study of language development helps standardize norms of language development in children. One significant application is Fenson, Dale, Jackson, Thal, Bates, Marchmen, and Rexnick (2001) who created a measuring tool for lexical development for American children named Child Development Inventory (CDI). The CDI has been adapted by researchers of other languages and is practically used worldwide today.

In Thailand, the study of first language development has started since 1970s (Luksaneeyanawin 1976, Tuaycharoen 1977). After two decades, research and findings about language development of Thai children

included phonetic and phonological development (Tuaycharoen 1977, Rungrojsuwan 2003, Rungrojsuwan, Burnham, and Luksaneeyanawin 2004b), lexical development (Tuaycharoen 1984, Rungrojsuwan 2003, Rungrojsuwan 2019b, Rungrojsuwan, Burnham, and Luksaneeyanawin 2004b) and syntactic development (Yangklang (2003), Piyapasuntra (2019), Rathamkul (2010), Rungrojsuwan 2019a). Although it is quite small in number, to some extent, findings from these studies are meaningful and can be further applied by caregivers and practitioners for developing children's language ability. It should be noted that past research studies all paid attention to normally developing children. None of them concentrated on linguistically disabled children.

Accordingly, it is the aim of this article to primarily seek the status of language-related research studies of children with intellectual disability in Thailand, together with a look on the international arena, in order to propose suggestions for the study of language development of this specific group of children.

Definition of children with intellectual disability

Błeszyński (2013: 1-3) said that the term 'intellectual disability' (ID) has been used to include people having problems with communication in terms of language and speech. The very first criterion used for the determination of being 'intellectually disabled person' is the examination of the subject's IQ (intelligence quotient)—which must be lower than 70. In addition, limitations on communication and language skills are obviously observable. Together with communication and language impairment, this term covers learners with different etiological factors, as shown in Table 1.

Table 1 Differentiation of ‘intellectual disability’ (adapted from Błeszyński, 2020: 2-3)

No	Communicative Competence	Etiological Factors	Categories of Learners
1		Sense impairment (e.g. hearing, sight)	Partial displaying varied disabilities
2	Communication and language impairment	Motility disorder	Abnormalities in motility caused by spina bifida or cerebral palsy
3		Damage to the central nervous system	Developmental delay
4		Emotional developmental disorders	Schizophrenia, Autism
5		Cognitive development disorder	Mental retardation

From Table 1, it can be seen that, while communicative and linguistic impairment has been viewed as the productive outputs of these learners, the term ‘intellectual disability’ has been used to refer to language users with different etiological factors. Studies on learners with intellectual disability usually identify specific groups of participants in order to ensure that results from the studies will not be overgeneralized and biased. This means that language development of different groups of learners with intellectual problems can be varied. Even in the same group of mentally retarded learners, Martin, Lee, and Losh (2017) reported that children with Down Syndrome (DS) seemed to have more limitations in pragmatic development than those

with Williams syndrome, while the ones with fragile X syndrome tended to face the most challenging obstacles. In other words, with different correlated physical factors, the development of CID is undeniably complex. Therefore, the term ‘intellectual disability’ should be used with specific care.

In Thailand, according to Government Gazette (2009) proposed by the Ministry of Social Development and Human Security, the definition of ID is given in item 8 as follows.

“8. The criteria to determine intellectual disability include the way a person having limitations in performing daily routine activities or participating in social activities which results from late development or having lower IQ than normal people, detected before the age of 18”

(Government Gazette, 2009: 4)

The above definition derives from international criteria used to identify children with intellectual disability. It should be noted that the definition is broad, covering all possible etiological factors and focusing its attention on 1) IQ levels and 2) personal or social skills. However, according to various organizations and scholars in Thailand (Rajanukul 2020: 1, Siriratrekha 2020: 1,

Supasamut, Sukkasem, Panonwan na Ayudhaya, and Channetra, 2020: 2), the term ‘intellectual disability’ has been limited to the case of children with mental retardation. As a preliminary observation on research studies on children with intellectual disability, this article focuses its attention on studies of mentally retarded children (MR). According to American Psychiatric

Association (APA) using Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR), MR is, therefore, defined by three main criteria (Mental retardation 2020: 2, Rajanukul 2020: 1) as follows.

1) IQ score is lower than average of 70-75;

2) The children have limited adaptive skills (daily basic skills)- including conceptual, social, and practical skills and;

3) The symptom can be observable as early as before the age of 18.

Moreover, ID is further classified into four different degrees, based on IQ scores and how much children possess adaptive skills, as shown in Table 2.

Table 2 Degrees of Intellectual Disability (Adapted from Mental retardation 2020: 2)

No	Degree	IQ score	Adaptive skills
1	Mild	50-70	1. Can develop academic skills up to the level of six grade students. 2. Can be self-sufficient and live independently with minimal social support.
2	Moderate	35-55	1. Can carry self-care tasks with moderate supervision. 2. Can acquire some limited communication skills and live within community with supervision or guidance.
3	Severe	20-40	1. May master very basic self-care and communication skills. 2. Can live in a group home.
4	Profound	20-25	1. May be able to development very basic self-care and communication skills with careful support. 2. Need a high level of supervision and guidance.

From Table 2, regarding language development, IQ scores tend to correlate with children’s communication and life skills. Obviously, children with mild and moderate levels of mental retardation are capable of language learning, while the severe and profound groups seem to be much more challenged. Accordingly, the majority of research studies on language skills of CID employ mild- and moderate-level learners and report, to some extent, their language development after receiving some particular training, to be described in the next section.

Studies on language development of children with intellectual disability

In this section, some research studies on language development of ID were selected in order to demonstrate how much we have known about this group of children. The studies are primarily grouped into two: Thai and international.

Thailand

Generally in the study of language development, researchers report the status of children’s language competence by describing what area or how far the children could employ linguistic symbols in some communicative situations. In other words, language

development deals with the clarification of children's internal repertoire rather than try to help them develop their ability further than the level they are. Accordingly, it was found that the study of language development of CID in Thai is very minimal. The only study on language development found is about children's pronunciation (Srichuang, 2006). In the study, Srichuang (2006) examined the pronunciation of Thai consonants by 30 secondary mentally retarded children who were further classified according to gender-male vs female-and degree of mental retardation-mild vs moderate. It was reported that 71.74% of words were correctly pronounced. The highest number of consonants that were correctly pronounced ranged from final consonants, initial consonants, and consonant clusters, respectively. Stop consonants were likely to be pronounced more correctly than nasals and fricatives. In terms of gender, males were better than females, and as expected, children with moderate intellectual disability tended to find more difficulties in pronunciation than those who were mild.

In addition to Srichuang (2006), the scope of study has been extended beyond the area of language development in order to see what kind of study Thai researchers are interested in relation to language. Accordingly, the scope of review has been expanded to 'language-related' studies on children with intellectual disability. As a result, research studies conducted by two

groups of researchers are found: special education school teachers and university-level researchers.

Classroom research in Special Education Schools: Strengths and Weaknesses

In Thailand, parents of children with intellectual disability usually send their children to special schools for intellectually disabled children where education is provided to children from kindergarten to high school level (Grade 12). Normally, teachers are required by the school to conduct research studies with their students. Research studies done by school teachers are all classroom-oriented. Language study is a section under the Thai language subject, which is one of the 8 major subjects taught. Research related to language is surprisingly rare, compared to studies in other areas such as life and adaptive skills. This might be due to the focus of the schools which prefer offering some basic training for their students to be able to live by themselves and acquire particular tasks beneficial for their future careers rather than teach academic contents. For this article, three classroom research related to language are selected and synthesized.

From the review, it was found that the classroom research did not directly reflect language development of CID, but rather, focused on the use of particular teaching techniques to develop particular language skills of the children, as shown in Table 3.

Table 3 Research topics of studies by teachers of special education center, Phayao Province

Classroom research	Author
The use of ‘What do you want?’ teaching material to develop perception and language performance of children with intellectual disability	Chakkaew (2020)
The use of ‘Small books’ to develop children with intellectual disability to read words with the /i/ vowel.	Khuankam (2020)
The use of picture story books to develop reading skills (simple daily-related sentences) of children with intellectual disability	Wongsurit (2020)

From Table 3, it can be assumed that in school research on language development is viewed as how to develop specific skills of children by using some particular techniques. This view falls on Applied Linguistics of teaching language to children with intellectual disability rather than focuses on the examination of children’s present linguistic knowledge. This might be because of the roles of the researchers themselves that they, the teachers, are responsible for providing education so they have to find the most effective method to improve their students’ performances.

Another reason why these studies are all classroom-based might be because of the characteristics of the children themselves. That is to say, children with intellectual disability are very independent, have limited capabilities to comprehend and communicate effectively with their teachers, and sometimes can be emotionally difficult to deal with. Teachers find it easier for them to work with familiar subjects. A classroom research might be the best and the most direct instrument to help solve their current problems with their students.

For research methodology, it is quite surprised to see that all three research studies employed only one student as participant of the study. It is known that normally CID might have other additional physical or mental symptoms interconnected with their primary

characteristics-which are IQ level and some limitations in adaptive skills. As a consequence, each individual child will have his or her significant characteristics different from others. Accordingly, a particular teaching strategy or technique might not work for all children in a class and this makes teachers scope their studies with only one student. Moreover, collecting data of this specific group of children might be very time consuming because of their unpredictable cooperation and response to the task.

In addition, from ethical perspective, the treatment with just only one student in the class might not be fair to others. Although the results of the study might suggest some positive effects of the designed material in developing a particular language skill, this does not mean that the very same technique would work well with others because other individual-difference factors might be involved. This implies that the researcher has to take more time to conduct more research projects to overcome the problems for the whole class which is-in reality-almost impossible.

One advantage of the study of this kind-focusing on one participant-might be that the method is tailor-made to directly solve a particular problem. Considering from ‘case study research’ perspective-a research study with one specific participant, the researcher has to specify the context of the study clearly,

in this case, is the specific characteristics of the particular student, in order to introduce specific methods to solve the problems. However, in the research background of the three studies, there is no such specification of the participant given. This might be implied that the researchers aimed to claim that if the results of the studies were valid-the designed techniques affect positive performances to the students then their methods could be applied to other students in class. As mentioned earlier about the variation of CID, and from the perspective of the contribution of a research study-where the research did not aim to do ‘a case study research’ from the beginning, the benefit of a classroom research-where the teacher is the researcher-will be explicit when he or she explores a higher number of students in their class. Results of such studies, as a consequence, will lead to some suggestions to improve his or her teaching techniques and strategies.

In addition to the case of participant, the design of the research instrument of the three studies indicates that teachers might lack knowledge on how to conduct a classroom research. It is found that there was no description of how research instruments were developed and modified from the original sources. In relation to linguistics, the reason of how some particular linguistic contents were selected were not present. Chakkaew

(2020) aimed at developing her student’s linguistic perception and performance by urging the student to respond and express what she wanted (to eat, to drink, to play or to sleep). However, no clear set of words or expressions used in the study was provided and how the data would be analyzed was not mentioned neither. As a consequence, the results showing in tables seemed to lack reliability. As for Wongwisut (2020) in Table 4, although some scope of linguistic categories was provided, the detail of how many words or expressions were included in each category and each time of assessment were not well explained.

Moreover, the three studies employed pretest and posttest scores as measuring tools to assess whether each student developed his or her skills. Results of these studies indicated that the posttest scores were all higher than the pretest ones. Then, conclusions were drawn that the designed teaching materials were all effective for the students. However, considering the accumulative scores of each student in the three studies, it was found that mostly the posttest scores might not be significantly higher than those of the pretest. All results were shown only in raw scores and percentage, as can be seen in the study of Wongsurit (2020), reporting sentence reading pretest and posttest scores in Table 4.

Table 4 Pretest and posttest scores in sentence reading task (Adapted from Wongsurit, 2020)

Topic	Pretest	Percentage	Posttest	Percentage
1. eat rice (5 words)	2	40	3	60
2. eat rice (5 words)	2	40	4	80
3. eat rice (5 words)	2	40	5	100
4. brush teeth (7 words)	2	28.57	4	57.14
5. brush teeth (7 words)	3	42.86	4	57.14
6. brush teeth (7 words)	3	42.86	5	71.43

From Table 4, it is also found that the number of words used for the study was quite low (5 words). This might mislead the interpretation of the results because when calculating percentage, the value of each word would be 25% (for topic 1-3) and 14.28% (for topic 4-6), respectively.

From the above-mentioned weaknesses of the classroom research studies, the following recommendations have been made:

1. Increase the number of participants in order to cover general perspective of the particular phenomenon.

2. Be more specific on research methods especially research instruments in order to ensure that the amount of collected data is appropriate for analysis and reliable.

3. In relation to the use of pretest and posttest for the test of effectiveness of some particular teaching methods, inferential statistics analysis should be conducted in order to confirm the significance of the findings.

4. Special education schools might collaborate with other institutions, especially local

universities, in order to help train their staff to conduct research or join classroom research projects. This would indirectly help develop their staff's teaching and research skills and provide higher quality outputs which, ultimately, truly benefit their students.

Research projects by university graduates and staff

The second group of research on children with intellectual disability consists of studies by university graduate students and faculties. Similar to the studies by school teachers, five out of six selected research studies related to language of intellectually disabled children focused their attention on improving children's particular language-related skills using particular teaching techniques or materials. Accordingly, the term "language development" is viewed as stages of increasing children's linguistic capabilities. These studies paid attention to children language skills, including listening and writing skills in general, as shown in Table 5.

Table 5 Overall pictures of some selected university-level research studies on language of children with intellectual disability

Authors	Detailed information
Weerachatpitukchon (2002)	Participants: 12 students Treatment: Computerized lessons on Thai spelling (10 sessions) Target language skill: Thai word spelling skill (12 vowels) Results: N/A --> 95%
Sodsai (2003)	Participants: 4 educable Grade 4 students (aged 16-22) Treatment: Thai alphabet writing instruction (30 sessions in 10 weeks) Target language skill: Writing of some selected Thai alphabet Results: 22.5% --> 37%
Wacharatanakhom (2003)	Participants: 6 educable students (aged 4-7) Treatment: 4 activities: narratives, games, songs, and pictures

Authors	Detailed information
	<p>(16 sessions in 4 weeks)</p> <p>Target language skill: Listening skills (20 vocabulary words)</p> <p>Results: 11.16% --> 16.83%</p>
Yadonjai & Thammasiri (2004)	<p>Participants: 6 educable students (aged 3-4)</p> <p>Treatment: Story activities (16 sessions in 8 weeks)</p> <p>Target language skill: Vocabulary knowledge (words and meanings)</p> <p>Results: 1.66% --> 9.83%</p>
Hongsudta (2010)	<p>Participants: 3 educable (IQ 55-69) Grade 4-6 students (aged 10-12)</p> <p>Treatment: Reading and writing lessons (18 sessions in 6 weeks)</p> <p>Target language skill: Reading and writing skills (lexical level)</p> <p>Result: 1) Reading: 30.67% --> 70.42%</p> <p>2) Writing: 28.33% --> 70.17%</p>

From Table 5, it can be observed that although the contents of studies were similar to those of the classroom research, these studies were more elaborated in details. The five studies collected data from more than one participant (3-12 students) and specified more personal characteristics such as IQ and educable ability of the students to show that the subjects were homogenous and controlled. In term of instruments, in addition to the process of instrument development, all pieces of instruments were provided in appendices.

In relation to participants, it should be noted that intellectual disability are complex phenomenon (Błeszyński 2020: 1-3, Martin, Lee, and Losh 2017, Rajanukul 2020: 1, Siriratrekha 2020: 1, and Supasamut, Sukkasem, Panonwan na Ayudhaya, and Channetra, 2020: 2). Many factors, including IQ, adaptive skills, and etiological factors, tend to play very important roles in the learning of intellectually disabled children. Accordingly, the more specific characteristics of the participants are identified, the more accurate and beneficial the findings would be. Therefore, it is suggested that research studies in CID should place more

concern on the identification of their participants' personal characteristics.

Regarding language contents developed as a treatment to improve children's language skills, from a linguistic perspective, the systematic structures of the contents are still questionable. For example, Sodsai (2003)'s Thai alphabet writing lessons did not show clear explanation of how some particular alphabetic symbols were selected—for example, whether they were the first set of alphabetic symbols students learnt in class. In Wacharatanakhom (2004), four activities (with 20 lessons) were created to teach only 20 words (one activity for one word). Although the results seemed to indicate the effectiveness of those activities in developing children's vocabulary knowledge, this could also be implied that each activity was applicable for teaching only one vocabulary word at a time. Accordingly, how much time teachers would take in order to accumulate a number of vocabulary words into children's repertoire? Is it possible to find other more effective teaching methods that could account for more number of words at a time? Or in fact the activity used

in the study could possibly be responsible for more than just only one word? The unclear research methods lead to both negative critiques and unreliability. It is then suggested that researchers in this area should challenge more on both the selection of participants and language contents.

For research findings, it can be seen that all studies compared pretest and posttest scores (some include while-test, tests during the treatment) and reported that the posttest scores were usually higher than the pretest ones. Similar to the cases of classroom research, however, it has not yet been proved whether the increase of scores in the posttest really shows significant improvement—which means that children under investigation can reliably improve after being injected with a particular treatment. Accordingly, inferential statistics test, such as t-test, is also encouraged. Moreover, the posttest which is normally administered right after the last lesson might mislead the research findings. That is to say, one ultimate goal of these studies is to find ways to help improve children's language skills. When a particular skill is improved, it should be expected that the skill has long been acquired and stored in learners' long-term memory. Such skill should then be ready to be retrieved later whenever the learners encounter situations when such skill is required. Accordingly, the retention of those skills should be concerned and viewed as another important key indicator to measure the effectiveness of a treatment. Therefore, it is suggested that skill retention should be measured in research studies of this kind. Researchers might conduct another test later after the posttest (about 1-3 months) in order to assure that the trained knowledge or skill still exists in children's memory, which at the same time, proves the effectiveness of the method.

All in all, from the survey of language related research studies of CID, it is found that most of the studies in Thailand focus their attention on language teaching rather than examine status of linguistic competence. This means that the area of language development of this specific group of children is widely opened, especially for Thai linguists. Research methods in the previous studies shed lights on how future research in this area should take into account. It should be noted that the elaboration and carefulness in participant selection would set primary standard and quality for the whole study. Amount of information, especially language contents, seems to be another concern because children with intellectual disability generally have limited ability in language and communication. This makes a well-planned data collecting procedure.

International arena

In opposite to Thailand, studies on language development of CID in other languages are abundant. Results of research in this area show some basic knowledge of how language has been developed in this specific group of children. Six pieces of reports on language development of children with intellectual disability from five countries, including Bosnia and Herzegovina (Memisevic and Hadzic, 2013), Bulgaria (Georgieva and Cholakova, 1996), India (Pruthi, 2013), Poland (Błeszyński, 2013), and USA (Donohue 2010, Martin, Lee, and Losh, 2017) are selected and synthesized.

In general, it is usually reported that children with ID possess some language problems. This is confirmed by the study on speech and language disorders (SLD) of 167 ID children in Bosnia and Herzegovina (Memisevic and Hadzic, 2013). According to the examination of ID, it was distributed into three factors:

gender, degree of ID, and etiological factors. It is evident that 71.3% of CID tended to have speech and language disorders. In detail, more disorders were found in girls (74.2%) than boys (69.5%) and the mild ID (49.4%) seemed to have less SLD than the moderate ID (93.9%). Among different etiological factors, children with Down Syndrome had the highest possibility to possess speech and language disorders (91.2%). Therefore, speech and language disorders are said to be one major obstacle in the development of CID.

Phonological and Early Communicative Development

Georgieva and Cholakova (1996: 5) and Pruthi (2007) reported that children with ID normally have a delay in the onset of babbling about two months later than normally developing children (who start babbling at around 6 months old) and might possibly be extended to 12-24 months after birth in some cases. The delay in phonological development might be more significant if the children possess articulatory deficit-which is usually found in the ones with typically low IQ. In addition, more frequent errors and more varied types of errors can be observed in early developing period. This conforms to the study by Georgieva and Cholakove (1996: 3) that 82% (121 from 148) of their ID participants were found to have speech and language disorders (SLD).

ID children tend to have various types of speech disorders. Georgieva and Cholakova (1996: 3-5) found that the children usually faced some problems with articulation. The sounds of r, s, l, z, ch, tch were commonly found as their general articulatory problems. In addition, sound replacement and omission were reported. This might be due to the insufficiency of auditory perception, speech-related motor skills, and impairments of articulatory apparatus. In relation to fluency, 14% of their speech was manifested with

stuttering and 12.3% was found with cluttering. Another significant characteristic of ID speech is voice disorders. These include hoarse voice, hyper- and hypo-nasality, pitch alterations, and monotony. These characteristics directly affect not only explicitness of message but also comprehension of conversation partners.

In relation to nonverbal communication, Pruthi (2007) explained that children with ID usually have less eye contact. This signifies their low interest in others and surroundings. Dyadic interaction can be observed, while triadic interaction seems to be challenging for them. It is reported that the children show some difficulties in interacting with mothers and playing with objects at the same time (joint attention) and are likely to prefer interacting with people rather than with objects.

Lexical Development

Vocabulary growth in CID can be normal or late, depending on whether or not they have articulatory deficit (Pruthi, 2007). However, Donohue (2010) employed reading intervention to help increase vocabulary and reading growth of 159 ID in the US. The results showed that at the initial phrase of the study where the children attended the one-year course of reading intervention treatment, with results from the high risk of cognitive and adaptive skills limitation, their language and reading scores were, as expected, low. However, after the course of one-year treatment, it was found that the negative risk factors- cognitive development and adaptive skills- did not affect the development of children's vocabulary and reading growth. In other words, lexical and reading growth scores were significantly higher at the end of the course, regardless of children's inherited personal limitations. It is evident that appropriate types of intervention can truly affect children's development.

In relation to meaning, Pruthi (2007) explained that the children tend to acquire basic-level vocabulary words such as 'dog' and 'orange' before those belong to superordinate- (such as 'animal' and 'fruit') or subordinate-levels (such as 'golden retriever' and 'bergamot'). This might be due to the influence of the "Operating Principle" which relies on the degree of saliency of each level of category. In addition, according to the "Principle of Extendibility", similar to normally developing children, the CID develop overextended concepts of word meaning quite early as evident from the use of some particular words to express similar references such as calling [APPLE], [ORANGE], and [MELON] as 'apple'.

In relation to lexical knowledge, Geogieva and Cholakova (1996: 5) described that CID normally lack knowledge about words. This results in the incorrect use of words in communicative situations. They seem to be good at words with concrete meanings such as nouns and verbs rather than those which are more abstract such as adjective and adverbs. Moreover, due to the incomplete acquisition of word meanings, as resulted in the use of overextension, replacement of words according to their semantic similarities can sometimes be found.

Morphological and Syntactic Development

CID also show some delay in combining words. It is reported that they start their two-word utterances stage as late as 4-6 years old. The overuse of pronouns and demonstrative pronouns- over other nominal terms (nouns)-is also evident. In relation to syntax, CID show the sign of syntactic development as early as normal children but the rate of developmental growth is significantly slow. This, as a consequence, makes the gaps between ID and normally developing children continuously wider. Those with Down Syndrome (DS),

specifically, face some limitation on grammar development (Pruthi, 2007).

Although the pace of development is slow, CID are not incapable of development. Błezyński (2013) conducted a study to examine language competence of 48 CID aged 16-18 in Poland, using three writing tasks: describing pictures, writing a story with a dialogue, and writing a letter. The results showed that the participants' writing contained appropriate ratio between content words and function words. Content words of nouns and verbs were used for 50% while function words such as prepositions and pronouns covered 25% of the writings. Moreover, considering structural complexity, it was reported that the children generated simple, compound, and complex sentences for 50%, 30%, and 20%, respectively. In terms of errors, spelling and punctuation errors outnumbered language and stylistic errors. Findings from this study suggest some extent of grammar learning capability of CID. However, the focus of this study was quite broad so it was suggested that more attention on the examination of some particular grammatical features might be needed in order to pinpoint in which area of syntactic development the children can improved.

Pragmatic Development

Although compared to normally developing children, CID show poor pragmatic development, this area of language seems to be the highlight and strength of this group of children. The study of pragmatic development can be classified into three areas: speech act, conversation, and narrative (Martin et al., 2017; Pruthi, 2007). In relation to speech act, it is reported that CID can communicate the same range of communicative intends as normal children at the same age except those for instrumental and interpersonal purposes. Martin et al. (2017) asserted that different subgroups of CID could slightly show different

degree of pragmatic development. Among ID children, although they might show significantly less act of request, the ones with William Syndrome (WS) seem to have the highest progress, followed by Down Syndrome (DS) and Fragile X Syndrome (FX). It is especially for the case of FX with coordination with Autism that the development is much more severe.

In conversation, CID can maintain the topic of conversation they engage in and can perform appropriate turn-taking behavior as normal children. However, Martin et al. (2017) reported that CID usually show less elaboration on the topic. Their conversational turns tend to contain minimal or no new information which might result in conversation distraction or breakdown. As they grow up, with less development in vocabulary knowledge, their engagement in conversation seems to be more difficult. Martin et al. (2017) also asserted that WS are found to have some difficulties in interpreting questions while the FX obstruct mostly in their excessive self-repetition—which usually leads to communication breakdown.

For the study of narrative-recall narrative—it is found that CID can surprisingly maintain the same number of plots and show similar length of narratives as those of children at the same mentally-developed level. Specifically, DS prefer expressing more references to plot and themes while FX use fewer references to protagonists. One strength of CID's narratives is the significant use of evaluation—expressing narrators' opinions, feelings, and comments toward the story. This is found in both DS and WS (Martin et al 2017).

In summary, international research studies show that although basically CID have slow pace and some limitations in language development, their language competence in some areas can be improved. One important task for researchers in this area is to find strengths and possible linguistic features that can be

developed and put forward those findings to therapists or practitioners for the application of teaching methods to enhance their language ability and communicative competence.

Conclusion

It might not be overstated that the study of language development of CID in Thailand is ignored. The majority of language-related studies have paid attention on language teaching without knowing about the children's internal linguistic competence—which would be the basic resource for development. The previous studies in Thailand seem to face quite serious and questionable problems in terms of quality involving participants, language contents, instruments, and analytical methods. Arguments with constructive comments are provided under the light of hope to see more research in terms of both number and quality.

However, in relation to language development, it can be seen that research in this area in Thailand is in the very initial phase. More attention and support from researchers and grantors are needed. It is claimed that the study of language development will lay as a strong foundation for further study and development of CID. From international research studies, the picture of language development of CID is, to some extent, clarified. Although ID seems to be a cause of speech and language disorders, some areas of language development can be possibly expected. The quest of how far or what area of language CID could overcome is a challenge. International studies have paved some tentative pathways of language development study in Thailand. From a universal perspective, it is also curious to support or falsify the existing findings and propose universal and language-specific features of language development of CID. The goal cannot be reached without the first step.

Accordingly, the attention on CID's language development study should be called for.

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