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Understanding Plots in Storytelling: An Examination of 9- to 15-Year-Old Thai Children with Intellectual Disabilities[1]

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Abstract

Children with intellectual disabilities (CID) are born with incomplete development of intellectual capabilities. This deficit in intellectual competency is said to affect, to some extent, their language development. The present study aimed to investigate CID's communicative development, namely plot understanding, from their produced narratives. Participants were 29 9- to 15-year-old Thai CID from Chiang Rai Punyanukul School. The story-retelling technique (Reese et al., 2012) together with the picture book Frog, Where Are You? (Mayer, 1967) were used for data collection. Building from Freytag (1894), Berman & Slobin (1994), and Rungrojsuwan (2019a), a modified version of narrative macrostructure including onset, problem, problem-solving, and resolution was used as the analytical framework. Results showed that CID of younger ages, 9 to 11 years old, tended to have a wide range of plot understanding. Some could effectively communicate through narratives as early as 9, while others started their journey as late as 11 or 13. However, 15 years of age seems to be a significant period when CID who were once at different developmental paces, converged. In other words, their developmental gaps reduced and most of them could narrate effectively. Compared with normally developing children, CID are later at the beginning stages, but could finally reach the expected goal of narrative communication.

INTRODUCTION

Past research revealed the fact that intellectual abilities, to some extent, affected a person's ability to learn and acquire a language (Abbeduto et al., 2012, pp. 331-332). Compared to normally developing children, children with intellectual disabilities (hereafter referred to as CID) tended to show a later onset of linguistic acquisition evidence—such as producing their first words, and sentences—and a slower rate of communicative development. A delay in the onset of phonological, lexical, and syntactic development was regularly found in CID, especially among those with articulatory deficits and relatively low IQ. Moreover, relatively more types and tokens of pronunciation errors, misuse of words, and incorrect syntactic structures were

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prominent (Finestack & Abbeduto, 2010; Georgieva & Cholakova, 1996; Martin et al., 2009; Miolo et al., 2005; Pruthi, 2013). Research studies in the area of linguistic development of CID have widely been investigated and these shed significant light on the overview of how CID's communicative development deviates from that of their normally developing counterparts. Such knowledge contributed to the holistic approach on how and what kind of treatment should be introduced in order to promote the language skills of CID at different stages of language development with the goal of supporting them in communicating their desires effectively.

Narratives have been used as a measuring tool for language development in Thai and crosslinguistically for decades (Berman & Slobin, 1994; Piyapasuntra, 2019; Ratitamkul, 2010; Reese et al., 2012; Rungrojsuwan, 2019a; Rungrojsuwan, 2019b; StrÖmqvist & Verhoeven, 2004; Yangklang, 2003). Bliss et al. (1998) proposed content-based criteria for narrative development called 'Narrative Assessment Profile' (NAP), including 1) topic maintenance, 2) event sequencing, 3) explicitness, 4) referencing, 5) conjunctive cohesion, and 6) fluency. Such criteria view narrative globally, as a specific discourse which requires content, language, and delivery functions; while linguistic attributes were emphasized in the study of Justice et al. (2010). They proposed a measuring tool named 'Narrative Assessment Protocol', or NAP, consisting of different morphological and syntactic indicators to examine children's development, such as sentence structures (compound sentences, complex sentences, negative sentences, and interrogative sentences), noun phrase constructions, modifiers, nouns, and verbs. Furthermore, Gorman et al. (2016) adapted NAP to suit the Spanish grammatical system by adding more elaborate morphological measures, such as more verbal grammatical categories on verb forms (irregular imperfect, regular imperfect, subjunctive, reflexive, transitive, and ditransitive).

While the two NAP criteria pay more attention to the specific indicators, another group of narrative researchers tried to establish some standards for data and the collection process. The website CHILDES (https://childes.talkbank.org/) is a vast database collecting narratives of children from different languages and cultures worldwide. One well-known narrative on the database is the 'Frog Story'. It includes freely accessible recordings of children and users of different ages telling the same story from a picture book entitled, *Frog, Where Are You?*, drawn by Mayer (1967). Today, the database consists of frog story narratives of children (from 3 to 11 years old, plus adults) from 15 languages (34 corpora). To begin with, Berman and Slobin (1994) reported a cross-linguistic perspective of narrative development of normally-developing children from five different languages—Spanish, English Turkish, German, and Hebrew. The second volume of article collection employing the 'Frog Story' database, edited by StrÖmqvist and Verhoeven (2004), contributed findings from other languages such as Basque, Japanese, Swedish, Thai, Tzeltal, and American Sign Language. In Thai, the Thai Frog Story database was developed in 2001 (Zlatev & Yangklang, 2001), and has been utilized by researchers in many syntactic and communicative aspects (Piyapasuntra, 2019; Ratitamkul, 2010; Rungrojsuwan, 2019a; Rungrojsuwan, 2019b; Yangklang, 2003; Zlatev & Yangklang, 2004).

In relation to CID, Reilly et al. (2004) employed the 'Frog Story' narrative technique in their experiments to explore the language development of 4- to 12-year-old children with early

unilateral focal brain damage, children with specific language impairment, and children with Williams syndrome (Note: the first two are not CID). Morphological errors, use of complex syntactic structures, complexity of narrative structure, and types and frequency of evaluative devices were examined. Results found that some groups of children showed a delay in the onset of language development. However, by age 10, those children demonstrated the normal range of output for all measuring criteria. When the story is controlled, telling a story from the same picture book, it seems that the individual interest which might arise from variance in types of stories, sets of vocabulary, proportions of construction types, and lengths of narratives, might be, to some extent, reduced. Accordingly, instead of having participants tell stories freely, a controlled story could be an alternative approach for narrative studies involving subjects of different ages or languages.

Many aspects of the language development of typical Thai children have been examined, including phonetic and phonological development (Luksaneeyanawin, 1976; Onsuwan et al., 2020; Rungrojsuwan, 2003; Rungrojsuwan et al., 2004b; Tuaycharoen, 1977), lexical development (Rungrojsuwan, 2003; Rungrojsuwan, 2019b; Rungrojsuwan et al., 2004a; Tuaycharoen 1984), as well as syntactic and semantic development (Piyapasuntra, 2019; Ratitamkul, 2010; Yangklang, 2003). However, studies about language development of CID have yet to receive the attention of Thai researchers and educators. Moreover, the direction of studies has yet to explore the foundations of how CID acquire language compared to average developing children. Rungrojsuwan (2020) reported that most studies dealt with seeking alternative instructions and learning strategies to aid the children in specific academic areas or skills such as mathematics, pronunciation, and basic alphabet and vocabulary production. Although such research studies might be successful in overcoming some learning problems of CID, their treatments seemed to be very specific—could be applied with very small linguistic points—and immediate—were developed to fix a problem occurring in the classroom. Without seeing the overall picture of language development, it could be claimed that topic-specific, problem-solving research studies conducted in Thailand have yet to provide any applicable and influential impact on the research and development of CID, especially in the area of language development. From my point of view, prior to seeking the appropriate teaching methods to improve CID's language skills, it is necessary to understand the nature of language acquisition of this special group of children. Accordingly, some significant questions needed to be answered, primarily: 1) how well do CID at different ages acquire a language? and 2) what are the similarities and differences between the language structures of CID and those of typically developing children of the same ages? Answers or findings to these questions would ultimately help teachers and language therapists know better how to plan and initiate learning tools and activities to support CID. Therefore, the present study aimed to examine the communicative development of Thai CID by exploring their understanding of plot structures through storytelling.

METHODOLOGY

Scope of the study

By examining their narratives, this study narrowed its focus on the extent to which the CID acquired the four main plots of a story as defined by Rungrojsuwan (2019a) (see Analytical Framework). Due to the involvement of CID, a vulnerable group, the proposal for this study was approved by The Mae Fah Luang University Ethics Committee on July 2021 (EC 21086-10).

Participants

The participants in the study were 29 CID (mild ID) from Chiang Rai Panyanukul School, a special education school, in Chiang Rai Province. The children were divided into 4 different age groups: 9, 11, 13, and 15 years of age, with 6-8 children in each group. It should be noted that the school divided its students into four groups: A, B, C, and D, according to the severity of their learning disabilities. The children selected for the present study were in group A, with the lowest level of severity and the highest level of learning ability. A code for each child was set according to the following criteria: [child + age + no.]. For example, C9n2 represented the second (n2) child (C) in the 9-year-old group (9).

The picture book and data collection

The tool for data collection was adapted from the picture book *Frog, where are you?* by Mayer (1967), which has been used for narrative studies in many languages (Berman & Slobin, 1994; Ratitamkul, 2010; Reese et al., 2012; Reilly et al., 2004; Rungrojsuwan, 2019a; Rungrojsuwan, 2019b; StrÖmqvist & Verhoeven, 2004; Yangklang, 2003; Zlatev & Yangklang, 2004). The book depicts the story of a boy living with a dog and a frog. One night, the frog runs away from the house, and the next morning the boy discovers the frog is missing. He and the dog search for the frog in many places. Along their journey, they meet different kinds of animals. In the end, they find the frog and take it home. Due to the limited attention span of CID, 16 of 24 pictures were selected to use for data collection (see appendix P1-P16). Note that the 16 pictures fully covered the story's plot components (see analytical framework). In addition to the pictures, a short script narrating the corresponding pictures was prepared, and an audio clip was made by the research assistant.

The recorded audio clip and pictures were used for data collection. After a warm-up activity, each subject was asked to join the data collection session individually. The story-retelling technique (Reese et al., 2012, pp. 135-139, p. 144) was implemented as follows: First, each picture and the corresponding audio script were slowly and continuously introduced. This was to establish the story's basic idea, creating a connection between the pictures and the assumption that they could gain some conceptual knowledge about the story and ultimately generate their own story from their existing linguistic knowledge. Note that the purpose of the audio clip was to control the input for all subjects, allowing for results based solely on the children's actual performances. Secondly, the children were asked to tell the story themselves. Their storytelling was type-recorded. When problems arose during this process, such as silence or showing signs

of ignorance, the research assistant who collected the data might facilitate them by asking questions and urging them to continue describing the pictures. However, after making a few attempts at motivation, if the subject showed no response, the research assistants would move to the next picture. Thirdly, the recorded audio would be transcribed and used for data analysis after completing the data collection process.

Analytical framework

Plots contained the core information about the story. The concept of plot structure is said to be basic in literary study (Freytag, 1894). In a crosslinguistic study of narratives, Rungrojsuwan (2019a) adapted the use of a plot structure called 'macrostructure' from Berman and Slobin (1994) for the examination of plot understanding of normally-developing Thai children with three plot components: onset, problem, and resolution. The study reported a significant result concerning the children's understanding of the 'problem' component, in that they obviously talked about the protagonist's (the boy) realization of the problem (the frog is missing) but tended to overlook the main protagonist's action to solve the problem (finding the missing frog). Accordingly, the present study reconsidered the plot components by Rungrojsuwan (2019a) by splitting the problem component into two separate components, problem and problem-solving, so that more intricate findings could be explored. Therefore, the plot in this study consisted of four components, with some guidelines for analyzing the children's plot understanding as explicitly demonstrated through their storytelling as follows:

1. Onset

At the beginning of the story, there is an illustrated picture (P1 in the appendix) depicting the boy, the dog, and the frog in the house. The children were expected to identify the three protagonists' existence and relationship. They might produce responses like: *'The boy, the dog, and the frog are friends'* or *'The boy bought a frog from the market and brought it home.'*

2. Problem

The problem component consisted of two pictures: the frog trying to get out of the jar (P2) and the boy waking up to discover that the frog had gone (P3). The children were expected to demonstrate that they realized the problem by narrating about the missing frog with language such as: *'The frog escaped', 'The frog was gone'* or *'The boy did not see the frog.'*

3. Problem-solving

The third plot component dealt with what the boy and the dog did to find the missing frog. Five key pictures were involved in this component (P4, P5, P6, P8, and P13). These pictures illustrated the boy and the dog's actions in searching for the frog, such as calling for the frog or looking for the frog in bushes or trees. Note that the other pictures (P7, P9, P10, P11, P12, and P14), though they might not signify 'frog-searching actions', were important in terms of creating a smooth story flow. Accordingly, the analysis would focus mainly on the children's narratives for P4, P5, P6, P8, and P13 to see how much the children realized and expressed

concerning the frog (which did not appear in these pictures), or the actions of the boy and the dog in relation to the frog. Some target expressions for this component might include: *'The boy was looking for the frog'* or *'Frog, where are you?'*

4. Resolution

The final two pictures (P15 and P16) depicted the resolution. P15 illustrated the boy and the dog finding the missing frog among other frogs while P16 showed the boy bringing the frog back to the boy's home. The children were expected to tell the last part of the story using some of these key phrases: *'The missing frog'* and *'The boy found the frog.'*

Data presentation

Qualitatively, according to the analytical framework, example utterances corresponding to each plot component were presented in Thai scripts with English translations. The achievements of the children were illustrated with grey highlights on the provided examples, while parts that were not achieved were left un-highlighted. Quantitatively, percentages of the children who understood the plots—narrated the story using keywords and expressions according to the framework—were illustrated in charts. Furthermore, to aid in data coding, picture codes indicating the pictures and their corresponding plot components were used (Table 1). Note that numbers represented the pictures while letters represented the plot components.

Table 1

Picture codes

Onset	1 onse
Problem	2 prob, 3 prob
Problem-solving	4 solv, 5 solv, 6 solv, 8 solv, 13 solv
Resolution	15 reso, 16 reso

RESULTS

Onset

In relation to the onset component, the results found that the CID of all ages had not yet fully conceptualized the logic of why the protagonists—the boy, the dog, and the frog—existed in P1. In other words, it was found that some children narrated and some did not seek to explain the relationship between the three main protagonists. Examples (1)-(4) demonstrate cases where the onset component was achieved.

(1) *กาลครั้งหนึ่งนานมาแล้ว มีเจ้า มีพบกับ มีน้อง เสือ เขาออกไปเล่นด้านนอก แล้วเขาก็เจอกบ เขาเอากบมาเลี้ยง* (C9n2)
'Once upon a time, there was Nong Sua (the boy). He went to play outside and met a frog. He kept it.'
(2) *กาลครั้งหนึ่งนานมาแล้ว มี มีกบตัวหนึ่งอยู่ในขวดโหล เสร็จแล้ว มีเด็กชายคนหนึ่ง หมาอีกตัวหนึ่ง ก็เล่า ก็ เลี้ยงกบไว้เป็นเพื่อนเจ้าด่าง* (C11n4)

'Once upon the time, there was a frog in a jar. Then, there was a boy and a dog. (he) kept the frog to be a friend for Dang (the dog).'
(3) *กาลครั้งหนึ่ง ด่าง พล จับกบมาเลี้ยง* (C13n6)
'Once upon a time, Dang (the dog) and Phol (the boy) kept a frog.'
(4) *คน เจอกบ แล้วจับกบ เข้าไปใน ในขวดโหล* (C15n4)
'A man met a frog. Then, (he) kept it in the jar.'

However, it should be noted that some children in all four age groups identified the three protagonists separately. This means that even though they were introduced to the characters during data collection, they could not see or realize the relationship of the protagonists, as in examples (5)-(8).

(5) *เจ้ากบอยู่นี่หายไปไหนเจ้ากบอยู่นี่* (C9n1)
'The frog is here. Where is it? The frog is here.'
(6) *กบกับหมา* (C11n3)
'The frog and the dog'
(7) *นานมาแล้ว มี คน กบ นะหมา กบหมาเห่า* (C13n5)
'Long ago, there is a man, a frog, a dog. The frog…the dog barked.'
(8) *กาลครั้งหนึ่งนานแล้ว มีเจ้าหมา เจ้ากบ* (C15n6)
'Once upon a time, there is a dog, a frog.'

It is known that age is a critical factor in language development in typically developing children (Bates et al., 1995; Berglund, 1999; Fenson et al., 1994; Ingram, 1989; Rungrojsuwan, 2003; Rungrojsuwan et al., 2004a; Rungrojsuwan, 2019a). However, as a part of intellectual development, the communicative competence reflected by the linguistic performance of CID tended to be different. As shown in Figure 1, it was obvious that the percentages of children who achieved the onset component did not increase across ages—50% at 11 years old but 16.7% at 13 years old. Such findings might suggest that CID seemed to have a high degree of deviation in development paces. In other words, some might develop their competence at a young age while others, with a slower pace, might not be able to communicate effectively, even with age. However, further examination of other plot components might be needed in order to effectively test this hypothesis.

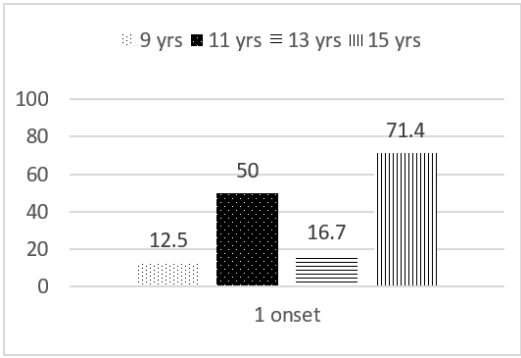

Figure 1 The percentage of children who acquired the onset component across all age groups

Problem

The problem component dealt with the awareness of the missing frog. This component was illustrated by P2 (the frog was escaping) and P3 (the frog was missing) and coded as 2 prob and 3 prob, respectively. Table 2 demonstrated examples of children's achievement in the problem component.

Table 2

Expressions of the problem component of children in the four age groups

	The frog was escaping. (2 prob)	The frog was missing. (3 prob)
C9n3	*(9) ต่อไป เขาหลับอยู่ เห็นว่า กบ หายไปไหน* 'Next, he (the boy) was sleeping (and) found that the frog has gone.'	*(10) ต่อมา เห็นกบหนีไปไหน* 'Next, (the boy) found that the frog ran away.'
C11n6	*(11) คำคืนหนึ่ง เจ้ากบ ปีน ปีนขวดโหลหนีออกไป* 'One night, the frog climbed out of the jar.'	*(12) แล้ว พอเช้าวันถัดมา พอพลกับด่างมาก็ ก็พบว่าในขวดโหลนั้น ในขวดโหลว่างเปล่า* 'In the next morning, when Phol (the boy) and Dang (the dog) came, they found that the jar was empty.'
C13n1	*(13) ตอนมืด กบหนีครับออกจากขวดโหล* 'At night, the frog escaped from the jar.'	*(14) ตอนเช้าครับ ตื่นครับ กบหาย หาย* 'In the morning, (the boy) woke up. The frog was missing.'
C15n7	*(15) แล้วตอนกลางคืน มันมีเจ้ากบ ออกจากโหล* 'At night, the frog went out of the jar.'	*(16) แล้วตื่นเช้ามา พบกับสุนัข ก็เห็นโหล เห็นโหลไม่มีกบอยู่* 'When (the boy) woke up, (he) met the dog and saw the jar without the frog.'

The quantitative analysis in Figure 2 showed that the percentages of the children in the four age groups who achieved the component were comparatively higher than those in the onset component. However, similarly, older children did not show better communicative skills than the children in lower age groups. Therefore, this helped confirm that age might not play an important role in the language development of CID.

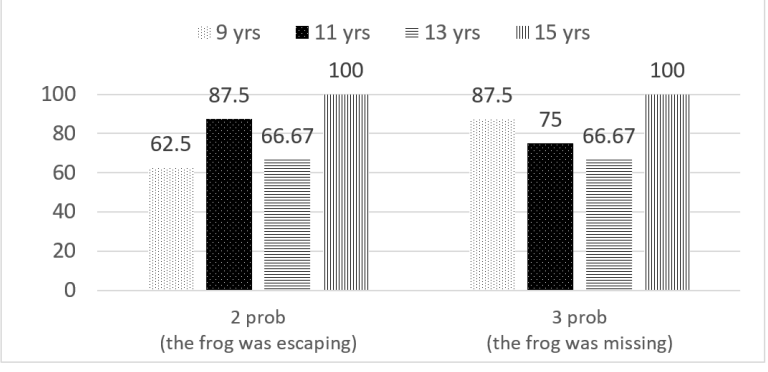

Figure 2 The percentage of children achieving the problem component across all age groups

Problem-solving

In order to solve the problem, the boy and the dog searched for the missing frog in many places such as in the room, outside the house, in the woods, on the tree, among others, etc. The problem-solving component consisted of five main pictures. It should be noted that in the pictures, there was no frog, instead, the two protagonists interacted with different kinds of animals. The absence of the frog—because it was missing—was a significant challenge for the children as the other components in these pictures could easily draw their attention away from the main purpose of the boy and the dog—their search for the missing frog (Rungrojsuwan, 2019a).

Similar to the findings for typical children reported by Rungrojsuwan (2019a), the CID tended to ignore the situation that the boy and the dog were looking for the frog, as shown in examples (17)-(20) in Table 3. Note that the highlighted elements mark the subjects' achievement of the problem-solving component. In order to completely achieve all elements in the problem-solving component, expressions about the search were expected for every picture (4 solv, 5 solv, 6 solv, 8 solv, and 13 solv). However, Table 3 illustrates relatively more non-highlighted texts (mentioning nothing about the search) in older children.

Table 3

Example expressions used by the children for the problem-solving component

(17) 9 years old (C9n5)	*(18)* 11 years old (C11n6)
4 solv: *หมา กบ คน* 'the dog, the frog, the man'	4 solv: *แล้วก็ตามหาทุกซอกทุกมุม ไม่เจอ* 'Then, kept searching everywhere, (but) didn't find.'
5 solv: *บ้าน ต้นไม้เยอะๆ* 'The house, many trees.'	5 solv: *เขาก็ออกมานอกบ้าน ร้องเจ้ากบ อยู่ไหน เขาออกไปตามหา ในป่า* 'He went out from the house and cried 'frog, where are you?' He went out to search in the wood.'
6 solv: *ผึ้ง หมา คน กบ* 'the bees, the dog, the man, the frog.'	6 solv: *คน ไป หาใน ในซอก ร่องไม้ แล้วต่างก็ไปหา หาในต้นไม้ เขย่า หวังว่า หวังว่า หวังว่ากบจะออกมา* 'The man searched in a narrow space in the trees. Both of them kept searching in the tree by shaking, and hoped that the frog would come out.'
8 solv: *คน* 'the man'	8 solv: *เขาเดินไปไปเจอ ไปเจอหิน หินก้อนใหญ่ ปีนขึ้นไปแล้วเกาะ แล้วเกาะ ไม้ไว้* 'He walked and found a rock, a big rock. (He) climbed up and hold the tree.'
13 solv: *ตก ก้ม กบ กบ* 'fell, bowed, the frog, the frog.'	13 solv: *พบพ่อกบ แม่กบแล้วก็ลูกกบ* '(the boy) found the father frog, the mother frog, and the frog.'

(19) 13 years old (C13n4) 4 solv: *ตอนเช้าไม่เห็นกบ เขาะหากบ ในบ้านค่ะ* 'In the morning, (he) did not see the frog. (He) was looking for the frog in the house.' 5 solv: *ไปเขาหาข้างนอก* '(He) went outside to find (the frog).' 6 solv: *ผึ้ง ไล่หมา คนปีนต้นไม้* 'The bees were chasing the dog, (while) the man climbed up the tree.' 8 solv: *ไปเจอก้อนหินลูกใหญ่ๆ* '(He) found a big rock.' 13 solv: *ได้ยินเสียงกบ เขาะหา* '(He) heard the frog's voice, (and) kept looking for it.'	*(20)* 15 years old (C15n5) 4 solv: *หลังจากนั้นก็เลยไม่เจอ แล้วหลังจากนั้นก็ เดินเดินมา หาในต้นไม้ ก็ไม่เจอ* 'After that, (they) did not find (the frog). Then, (they) walked..walked..looked (for the frog) in the tree but did not find.' 5 solv: *ไปเจอนกฮูกก็เลยตก* '(He) found an owl so (he) fell down (from the tree).' 6 solv: *แล้วหลังจากนั้น* 'After that...' 8 solv: *แล้วก็ตอนนั้น ก็ขึ้นดู เกาะไต่กิ่งไม้* 'At that time, (he) climbed up to see (by) holding on a branch.' 13 solv: *แล้วเขาก็เริ่ม ตามหากบ* 'Then, he started looking for the frog.'

To elaborate, Figure 3 illustrated the overall picture of the achievements in retelling the story in relation to the problem-solving components for all participants. It can be seen that young children at 9 and 11 years old tended to lose their attention toward the search for the frog during the boy and the dog's journey. Moreover, it was also surprising that the subjects at 13 years of age were not quite as successful in mentioning the frog in the five frog-searching pictures when compared to the 11-year-old group. Therefore, two primary implications can be made. First, this seems to confirm the hypothesis about age's insignificant influence on the language development of CID. Second, the children did not fully conceptualize the overall picture of the story but were rather focused primarily on the immediate input—the pictures—which resulted in the inability to properly maintain the continuity of the story.

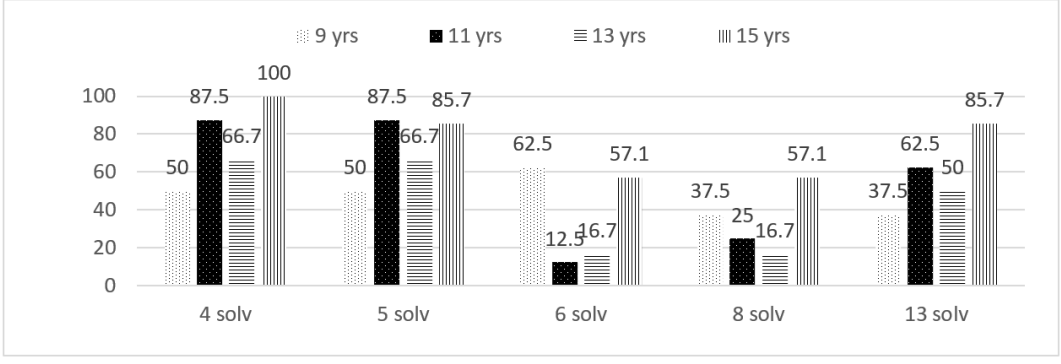

Figure 3 The percentage of success for the problem-solving component across all age groups

Resolution

From the children's narratives, it was found that the children at 9 and 11 years of age still showed a high degree of individual differences. In other words, some could perfectly achieve the resolution component by mentioning the missing frog while others either partially acknowledged or failed to show any awareness of the frog, as in examples (21)-(26) in Table 4.

Table 4

Examples of expressions for the resolution component of 9- and 11-year-old children

9 years old	11 years old
(21) 15 reso: *ซีนที่สิบสอง กบเจอแล้ว* 'In scene 12, *(*he*)* found the frog.' 16 reso: *ลูกอีกคนแม่อีกคนเจอแล้ว* (C9n1) 'The baby frog and the mother frog (he) found.'	*(22)* 15 reso: *เจอกบ กบ เจอกบแล้วครับ* กบ (นับกบ) กบ หนึ่งสองสามสี่ห้าหกเจ็ดแปดเก้า '(He) found frogs. Frogs, one, two, three, four, five, six, seven, eight, nine.' 16 reso: *เขา เขาเอากบ กลับบ้าน กลับบ้าน* (C11n2) 'He took the frog home. Got back home.'
(23) 15 reso: *แม่กบ* 'the mother frog' 16 reso: *จับกบเอาไว้กลับบ้าน กบ กบ แม่กบ ลูก กบ* (C9n4) '(He) caught the frog and went back home. Frog, frog, the mother frog, the baby frog'	*(24)* 15 reso: *เขาลงมา ลงมา* 'He came down, came down.' 16 reso: *เขาเอาไปบ้าน* (C11n1) 'He took (the frog) home.'
(25) 15 reso: *คุยกับหมา กบ* '*(*He*)* talked with the dog *(*and*)* the frog.' 16 reso: *มันเล่นคนเดียว* (C9n6) 'It was playing alone.'	*(26)* 15 reso: *กบ แปดตัว* 'Eight frogs.' 16 reso: *กบ เก้า เก้า สิบเอ็ด* (C11n8) 'Nine, nine, eleven frogs.'

In addition to those with complete achievement, as in example (27), surprisingly, at the age of 13 it was found that some children were unable to properly narrate the story, while others said nothing, as in example (28).

(27) 15 reso: *ไปเจอลูกกบ กับแม่กบ*
'(He) found the baby frog and the mother frog.'
16 reso: *เอาลูกกบกลับบ้าน* (C13n4)
'(He) brought the baby frog back home.'
(28) 15 reso: *อะหยัง (อะไร) อันนี้เขาขึ้น ใบใบไม้ ขึ้นเขามา กวางอะกวาง เอ้ยกบกบ กบ*
'What..here he got up..the leaf..he up. Deer..deer no, frog, frog, frog.'
16 reso: *อันนี้ อันนี้กบ กบ กวาง หมาหมา หมา อันนี้คน อันนี้ใบไม้ อันนี้หิน อันนี้นกฮูก นกฮูก...* (C13n5)
'This is the frog, frog, the deer, the dog, dog, dog, this is the man.
This is the leaf. This is the rock. This is the owl, owl…'

On the contrary, all children in the 15-year-old group could completely fulfill the two plot details of the resolution plot components, as in examples (29)-(30).

(29) 15 reso: *คนพบเจอ กับ ฝูงกบ แล้วเจอกบที่หายไป*
'The man met a group of frogs and found the missing frog.'
16 reso: *แล้วคนก็พากันกลับบ้าน* (C15n3)
'Then, the man brought (it) back home.'
(30) 15 reso: *แต่ตอน ตอนสุดท้ายนี้เขาก็เลยเจอ*
'but at last, he found (it).'
16 reso: *แล้วเขาเขาเอาขอขอกบกลับไปบ้านแล้วเอาไปเลี้ยงอย่างดี* (C15n5)
'Then, he asked for the frog, took it back home, and kept it well.'

Results from the resolution component, therefore, demonstrate a division of CID into two groups. Firstly, children from 9 to 13 years of age seem to have a high degree of variation, ranging from those who did not show any sign of plot understanding to subjects who could actively and accurately comprehend the content. Secondly, at 15 years old, the gap between children with high and low language proficiency tends to narrow. The cross-sectional data shows the surprising fact that at 13 years of age a wide range exists between CID of the same age group, while at 15 years old that gap seems to disappear. The majority of subjects in this age group (15) could respond effectively and accurately to the pictures and successfully achieve the goals—narrate almost all subplot components.

Quantitatively, Figure 4 illustrates the achievements of the four groups of children for the resolution plot component. It obviously showed the CID's developmental understanding for the resolution component. The first three age groups—9, 11, and 13 years old—possessed a similar level of plot understanding, while all 15-year-old children perfectly acquired the main purpose of the two pictures (15 reso and 16 reso).

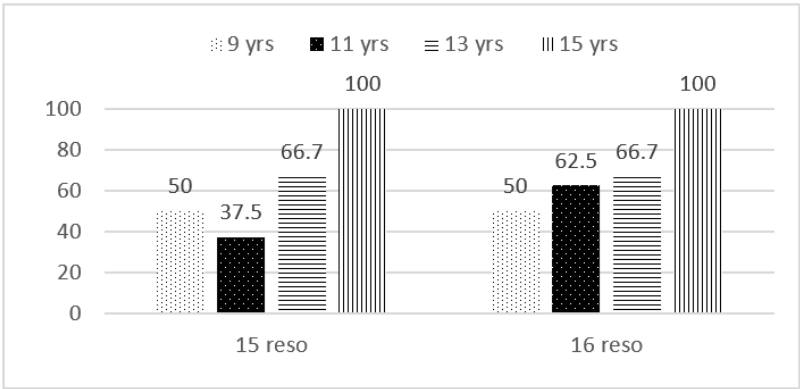

Figure 4 The percentage of success for the resolution component across all age groups

The overall picture of plot understanding

Merging the results from all four plot components, the children's overall achievements for each plot component across the four age groups are expressed in Figure 5. The findings indicate two important facts about the CID's understanding of the plot. Firstly, children with ID have a high individual variation in learning and development of language comprehension and production. Throughout the story—from 1 Intr to 16 Solu—the children at 9 to 13 years old possessed a similar level of language proficiency. This can be seen as the lines of the three age groups overlap. This indicates that, on average, these children could similarly deliver the story, regardless of age. In other words, one could not expect a child with ID at 13 years of age to be more productive in speech than a younger child with ID. In addition, according to the "story retelling" data collection method, such production directly reflects the ability to comprehend what was being said by others. This means that these children were in the learning and developing phase. Compared to Rungrojsuwan (2019a), which found that typical Thai children seemed to fully acquire all plot components by the age of 11, it can be said that CID were slower in language development in both receptive and productive aspects.

Secondly, however, Figure 5 clearly shows that no matter how slow they were at the beginning, these special children would ultimately be able to develop further and achieve effective communicative skills by the age of 15. More than 70% of the children could achieve 8 from 10 plots except the plots '6 sear' and '8 sear' which were accurately narrated by only 50% of the 15-year-old children.

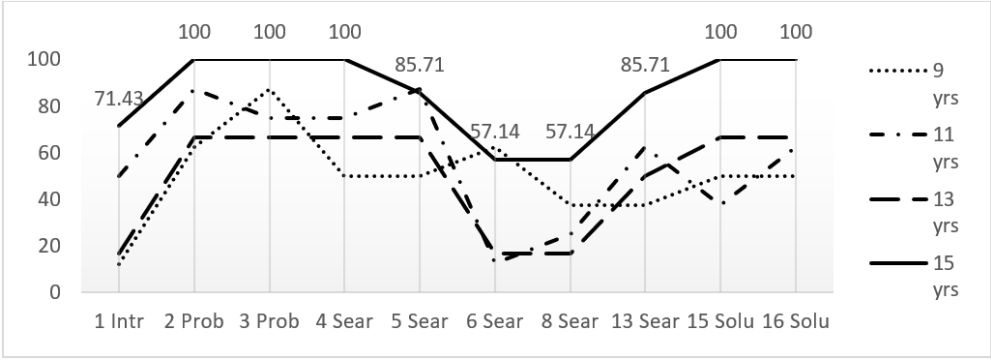

Figure 5 The average percentage of understanding of the four plot components of the four age groups

Using the same data as Figure 5, Figure 6 illustrates the achievements in a spider-web chart.

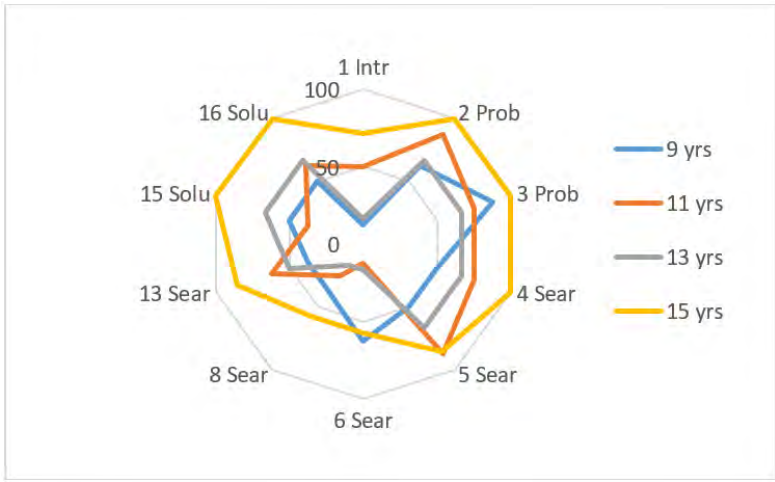

Figure 6 The development of narrative skills of the four age groups

From Figure 6, the yellow line—15-year-old children—covers not only the largest area but also encompasses the other ages—gray, orange, and blue. The other three age groups irrationally overlap one another. This corresponds to the previous conclusion about the developmental pathways of CID from 9 to 15 years of age. In addition, Figure 6 also demonstrates that the majority of the lines tend to lean toward the right-hand side of the web chart, belonging to the problem component and some elements of the problem-solving component. This might imply the saliency and/or simplicity of these two components over others. The problem component included two big changes—two elements—of the story: 1) the escape of the frog (P2), and 2) the acknowledgment that the frog was missing (P3). With regard to the problem-solving components, the first two pictures clearly showed the action of the protagonists in

response to the missing frog: 1) the search for the frog where the frog once was (P4), and 2) the call for the frog (P5). Moreover, these two elements of the problem-solving component were the most immediate scenes with relation to the most significant component (the problem of the missing frog). Accordingly, in terms of memory retention, the missing frog from the previous scene seemed to be recalled easily by the children, even with the absence of the frog in the next pictures (P4 and P5), they were still aware of the action of the boy and the dog in relation to the missing frog and expressed interest in the search for the frog in P4 and P5.

It was noted that a drop in the lines for all ages can be found in the problem-solving (searching for the frog) component (especially P6, P8, and P13). This might lead to the question of whether this reflects poor communicative ability resulting from the children's limitations, or instead the influence of other external factors. Continuing from the previous pictures, P6, P8, and P13 depicted the two protagonists—the boy and the dog—in other places, without the frog. It seems that both the pictures' compositions and the distance of these pictures from the key problem of the story (P2 and P3) might be factors that distracted the children from the main purpose of the story—the search for the missing frog. Instead of talking about the frog, the children paid attention to other aspects of the pictures, including the tree, the hole, the rock, the antlers, the log, and the river. Moreover, the line charts representing the achievements of the four age groups have been compared to confirm this external factor—the influence of the pictures in the story—on the storytelling, as shown in Figure 7.

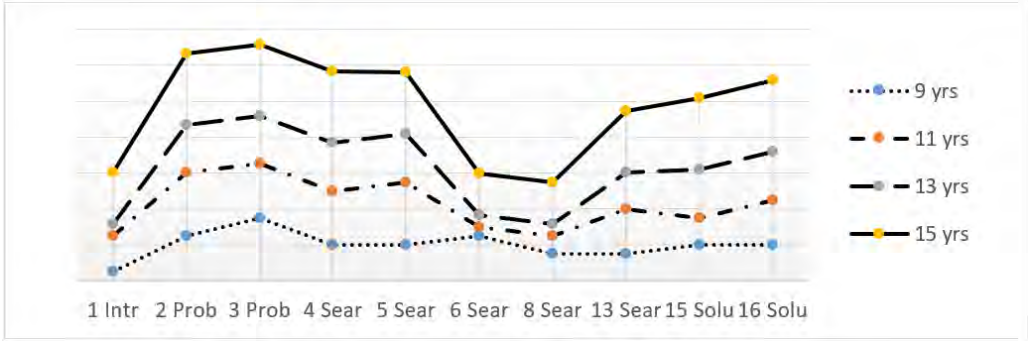

Figure 7 The storytelling behaviors of children with ID across all age groups

Figure 7 has been created in order to examine the patterns of achievement across the age groups. It could be observed that the four age groups showed similar storytelling patterns with a peak at the problem component and a drop at the middle of the problem-solving component and a gradual increase at the end. When all groups performed the same pattern, it might point to the fact that the content of the story overcame the age factor. This pattern also conformed to the study of typical children by Rungrojsuwan (2019a), so it can be said that regardless of intellectual limitation, a decrease in plot achievement amid the problem-solving component represents the natural storytelling pattern for Thai children who were tested by the picture book *Frog, where are you?* and the story itself may have influenced such pattern.

One significant finding from the previous analysis concerns the noncausal relation between age and narrative skills of CID between 9-11 years old. In other words, children at these ages

could be fast or slow learners regardless of age, but dependent on individual factors. In order to explore the degree of variation among children in the same age group, Figure 8 plotted the minimum and maximum achievement scores of children in each age group.

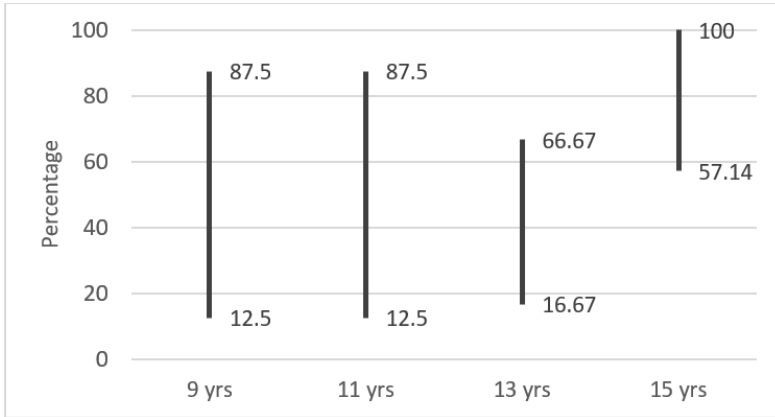

Figure 8 The ranges of plot components and percentages of understanding (across all age groups)

Ranges in individual variations for each age group can be calculated from Figure 8 by deducting the minimum scores from their corresponding maximum. Accordingly, the variable values are as follows: 75 (9 years) > 75 (11 years) > 50 (13 years) > 42.86 (15 years). It was surprising that although 9- to 13-year-old children seemed to produce similar narrative output, in terms of variation, the younger groups (9 and 11 years) tended to be more varied than the older group (13 years). Therefore, it might be said that from the aspect of individual variation, CID shaped up gradually (from more variance to less variance) when they grew older.

CONCLUSION AND DISCUSSION

The present study explored the communicative competence of school-aged Thai CID based on their narrative expressions focusing on their understanding of four main plots of the picture book *Frog, where are you?* (Mayer, 1967). As the study explored the delay in language development of CID, participants comprised 9-, 11-, 13-, and 15-year-old CID with the story-retelling technique employed for data collection. According to an analytical framework modified from Freytag (1894), Berman & Slobin (1994), and Rungrojsuwan (2019a), key linguistic indicators for the understanding of onset, problem, problem-solving, and resolution plot components were examined.

Results found that CID as young as 9 years of age, could vary greatly in language development. In other words, some were able to express the plot components clearly, while others could not. Plot component understanding achievements found at 9 years old were 12.5% for onset, 75% for problem, about 50% for problem-solving, and 50% for resolution. Compared to typically-developing children, who at 9 years old can significantly show the ability to tell a story (Rungrojsuwan, 2019a), about half of CID could not reach the minimum line of understanding—some failed to achieve different components of the plot, while others failed to express anything.

This conforms with the previous studies about the delay in language development of CID. This also represents a wide range between members of the same age groups from 9 to 11 years old, as shown in Figure 8, with range variation as high as 75%. Simply speaking, the delay in the onset of development seemed to reach 11 years of age. However, it might be said that the CID with low language performance were still in line with other CID that could communicate effectively.

Despite the delay, the CID showed surprising achievement in their communicative competence narrating a story at the age of 15. The majority of children at this age expressed the four main plots of the story correctly (71.4% for onset, 100% for problem, 77.1% for problem-solving (calculated from Figure 3), and 100% for resolution), while the range of plot understanding reduced from 75% at 11 years of age to 42.86% at 15 (Figure 8). This finding indicates that although the intellectual deficit seemed to play a significant role in the delay of language production at the early stage of development, it obviously did not affect CID's capabilities to develop their language skills to the communicable level. Such findings seem to conform with the previous study of Reilly et al. (2004).

In relation to the story (the picture book) itself, it seems that the story, to some extent, might affect some of the results. Considering the average percentage of understanding of each subplot component from Figure 6, the subplots 1 Intr, 6 Sear, 8 Sear, and 13 Sear tended to have low percentages of successful achievement. This indicates that these four subplot components were misinterpreted by most participants. For the subplot, '1 Intr', where the story began, it is a convention in the narrative where the narrator would introduce the main protagonist/s and some relevant background. The participants were still young and were very new to being a narrator, so they easily lose focus in appropriately employing the picture to serve the narrative function, but instead chose to express only some components of the story—such as only one protagonist, the window, the moon, etc.—freely. On the other hand, subplots 6, 8, and 13, which were in the problem-solving component, seemed to be more challenging. The participants were expected to talk about finding the missing frog while there was no frog visible, but instead, other animals such as bees, rats, and deer, were depicted in those pictures. Many participants paid attention only to what appeared in the pictures by narrating what the boy and the dog did with other animals, but nothing about the frog was expressed, though the pictures of the boy clearly illustrated the 'finding action'—such as calling for the frog. It was quite complex in the sense that the participants needed to associate a nonexistent element (the frog) with the story. In addition, there were many pictures corresponding to the problem-solving component (5 out of 10); not only did the children's attention have to follow the components of the pictures, but they were distracted by the extended number of pictures without the frog. As a consequence, the achievement of storytelling for this component was quite low. This finding corresponds to that of typical children reported by Rungrojsuwan (2019a).

However, it can be questioned whether the CID's achievement (both success and failure) in narrating the story is distinct from that of typically-developing children. Figure 5 and Figure 7 showed two dropping success rates, where the children in all age groups clearly failed to narrate the target purpose of the plot components, including the onset (1 Intr) and the problem-solving components (6 Sear and 8 Sear). Compared to Rungrojsuwan (2019a), such drops were also

found in normally developing children. Accordingly, it might be concluded that CID, though older, could narrate a story in the same pattern as that of typically-developing children. The failure in focusing on some subplots was possibly due to some narrative conventions and the complexity of the skill required—association.

It should be noted that there was one clear limitation in this study. The children who participated in this study were all high-achieving students, whose levels of learning ability were primarily assessed by teachers. Moreover, teachers reported that this group of students (A) could communicate far better than those with more severe learning disabilities (groups B, C, and D). As the main task of the study required the children to tell a story, only "A" students were selected. However, after collecting the data, it was found that students as old as 13 failed to respond to the stimuli properly. Some replied to the research assistants' questions with a few words, while others narrated nothing. Consequently, the frequency of occurrences of children's specific responses could not be reported in order to make this study qualitative.

The overall nature of language development of CID from 9 to 15 years of age was examined and reported. For the application of this study, researchers and practitioners could make use of age-based language comprehension and production to develop appropriate activities for children. Moreover, especially for CID of younger ages, results clearly indicated a high degree of variation across individuals. Accordingly, in a learning and teaching context, CID with low and high linguistic performance from the ages of 9 to 11 might be treated as one homogenous group, as it can be assumed that they have similar potential to develop and reach the final goal of communicative competence at the critical age of 15. This idea might also support the concept of equality and, at the same time, allow learners to enjoy and appreciate their differences. It should be noted that in Thailand, children are normally classified according to their ages to be in different levels (grades) with further evaluation according to their intellectual level among the same age group. As the findings of this study show variation across ages, it is suggested that schools group students primarily on their intellect. In other words, a class might consist of students of different ages but similar language and learning abilities. This might help students in the same class be able to move forward harmoniously and reduce some of the psychological factors that might affect their attitudes toward learning.

Finally, the findings from this study show high variation in the language development of CID across all age groups. However, the factors that affect such variation are still largely unknown. Moreover, in terms of language assessment, it is challenging to discover the extent to which storytelling can be useful for measuring and developing children's language competence.

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Appendix

The adapted version of Frog, where are you?