Emergence of Depiction in Acquisition of American Sign Language

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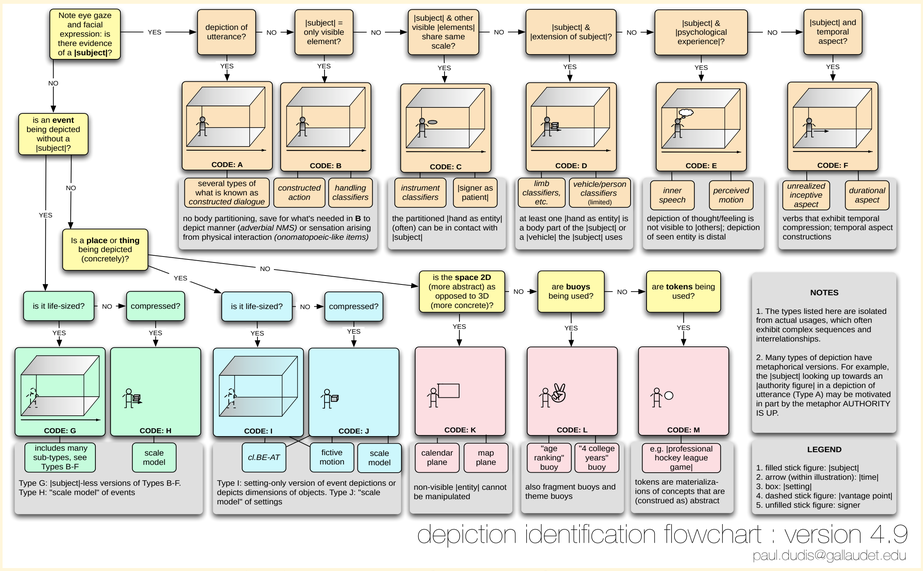
Abstract

This poster presents a small sample of recent exploratory work on the feasibility of applying Dudis (2007) towards the emergence of depiction in child acquisition of ASL. The phenomena subsumed by depiction are described, the benefits of viewing depicting utterances by children as related in terms of the cognitive components recruited to produce these utterances, and a hypothesis from the Real-Space framework is tested.

Depiction Introduced

Depiction is the iconic representation of events, settings, and objects, but distinct from the iconicity exhibited by nouns and indicating verbs (Dudis 2007). Various classifiers constructions, constructed action & dialogue, tokens and combinations of the above are all types of depiction. The flowchart below illustrates the relationship of different types of depiction. (Note: not all types of depiction are within this flowchart.) For additional examples see the section below "Depiction in Adults."

Depictive utterances are analyzed here with the Real-Space blending framework. Concepts associated with the entity being depicted are blended with Real-Space elements. For example, Codes A-F refer to instances of depiction where at least a setting, and subject of conception (Langacker 2008) of an event are integrated with the Real-Space signer, a portion of physical space, and the current setting, resulting in ⌈subject⌋ and ⌈setting⌋. These elements exist within a third mental space, the blend. Dudis demonstrates that it is possible to describe depiction with greater precision when additional Real-Space elements and cognitive abilities are considered. Partitioning is one cognitive ability with particular relevance here. Partitioning refers to the assignment of representations onto the hand(s), arm(s), face, or lips that are distinct from ⌈subject⌋.



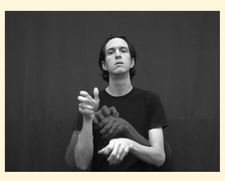
Dudis et al. (2008) introduce a flowchart to aid in the identification of depiction

Depiction in Adults

Code B: (depicting example of verb agreement)
HAND-TO-from location A to location B
That person gave it to that person.

Code D: (constructed action + entity classifiers)
CAR SWERVING+BODY SWAYING
I was swerving the car everywhere.

Code A: (sequence of reported speech)
IX-2 TOLD-ME, "YOU DO-neg THAT"
That person told me, "You shouldn't do that."



Code B: (Handling + ⌈subject⌋)
EFFORT-OPEN PAH-OPEN
After a bit of effort, the jar lid came open.

Code H: (event depicted with figure & ground)
CAR-HIT-TREE
The car hit the tree.

Rationale

As reported by Schick (2006) "role play and direct quotation" is acquired early and around age two "handling classifiers" are preferred over "entity classifiers" in spontaneous production. Handling classifier predicates, role-play, and direct quotation can be considered in the Real-Space framework as similar to each other in terms of the cognitive abilities recruited (i.e. there is no partitioning of the body parts to represent multiple visible elements.) Instances of depiction involving both the depicted subject of conception (Langacker 2008) and "entity classifiers" can be viewed as more complex than those with "handling classifiers." This is because partitioning is utilized to represent a distinct visible object that is mapped onto the body part, (i.e. a hand, face, etc. no longer "belongs" to the depicted subject of conception.)

By viewing these phenomena as related and describing this relationship with the Real-Space blending framework, we can describe, for example, handling classifiers, constructed action, and constructed dialogue as being similar to each other in terms of the "source material" (body space, etc.) and cognitive abilities recruited. That is, there is no partitioning (Dudis 2007) of the body to represent multiple visible elements. The torso, face, and arms are all considered to be as belonging to the subject. In short, the same machinery is recruited to produce them. By viewing handling classifier predicates, constructed action, and constructed dialog as belonging to the similar types of depiction (see code A & B in the flowchart) may present us with clearer patterns illustrating the course of acquisition for depiction. This can be achieved by using Dudis' approach to analyzing what is required to produce these types of depiction. For example, instances of depiction involving both the depicted subject of conception (aka ⌈subject⌋) and "entity classifiers" can be viewed as more complex than those with "handling classifiers." This is because partitioning is utilized to represent a distinct visible object that is mapped onto the body part, (i.e. a hand, face, etc. no longer "belongs" to the depicted subject of conception.) With this approach, we are presented with specific predictions that can be tested. For example, assuming that simpler constructions appear earlier than complex constructions we can predict that code B would appear prior to code D. This translates to clear hypotheses that can tested by coding children's utterances for depiction.

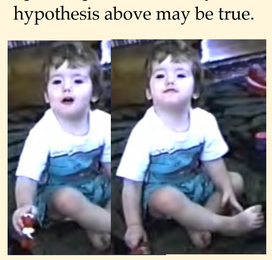
Methodology

This poster draws from fifteen video recorded sessions of naturalistic play with JIL, a deaf child with deaf parents whose primary language is ASL, from the ages of 1;07 to 1;10 and 2;07-2;09. Each session typically lasts around 45 minutes and were transcribed for instances of depiction.

Below are three sets of screen captures illustrating the development of partitioning, which is one of several sequences that have been observed in the of emergence of depiction in child acquisition of ASL.

Depiction in Children

This section presents a test of one hypothesis borne from the Real-Space framework as described in § "Rational." Code B is predicted to appear prior to Code D because the latter is more complex as it invokes the partitioning of the hands, arm, face, or lips to represent an entity distinct from ⌈subject⌋. The examples below suggest the hypothesis above may be true.



At the age of 1;07, JIL depicts a dog. No lexical items produced, only the depiction of ⌈subject⌋, which in this case, is a dog that barks. This is the first recorded session with JIL and already at this age, she is able to recruit the necessary components to depict ⌈subject⌋, but she does not produce any signs in conjunction with depicting ⌈subject⌋.

One year later, JIL is observed producing a depiction of ⌈subject⌋ and a sign in a tightly ordered sequence. At 2;07, JIL depicts the pout of a ⌈subject⌋ which dissolves and JIL then produces the verb "CRY". This utterance is similar to the disjointed production of adverbial NMS and manual signs as observed by Anderson&Reilly (1998). At this point JIL has not yet mastered the ability to partition manual articulation that is distinct from ⌈subject⌋. Instead she produces them sequentially.

At the age of 2;09, JIL produces an adult-like production of Code D.
JIL produces a depicting verb "STARE", which is partitioned away from ⌈subject⌋.

Discussion

The three examples from JIL illustrates how early depiction appears (at least by 1;07) and her strategies as she begins to integrate depiction more tightly into her utterances (i.e. sequentially), then finally an adult-like utterance by the age of 2;09. This set of examples contains observations similar to that of Anderson & Reilly (1998) where children produce nonmanual signs with the incorrect scope. Additionally, Schick's (2006) observations of a preference for handling classifier predicates at early ages were also confirmed within the dataset transcribed for this project.

Limitations

The data here is derived from one child. Similar patterns regarding partitioning and integration of elements across other children are expected, but the milestones for each development may vary considerably. Additionally, this work has not yet been able to consider the relationship between the complexity of all depiction types and their milestones. For example, Code H is simpler than Code D, but based on one observed instance of Code H, it seems to appear later than Code D. This may be attributed to the fact that Code H requires refraining from depicting ⌈subject⌋.

Conclusions

When viewed with the lens of Real-Space framework and when considering the specific cognitive abilities identified by Dudis, we can see a clearer course of development for depiction. The sequence of JIL's utterances suggests JIL comes to produce increasingly complex forms of depiction, and the errors can be accounted for if we include the consideration of the cognitive abilities that children must utilize in order to produce certain types of depiction.

Future work

New work focuses on effects of interaction between depiction and several other components, namely, discourse cohesion (cf. Slobin 2006), nonmanual errors (cf Anderson & Reilly), and overgeneralization of depiction. Preliminary findings suggest that as the child comes to integrate additional elements into their signing (e.g. non-manuals, new types of depiction, discourse cohesion, etc.) errors appear. In other words, the protracted acquisition timeline for classifier constructions is the result of gradual integration of multiple resources.

References

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