

Critique of *Iconicity in the speech of children and adults*

——by Hongxiu Liu Student ID 2000461

1.Introduction:

Contrary to arbitrariness, *iconicity refers to a resemblance between signs and signified* (Dingemanse et al.2015). Both spoken and sign language are abound in features of iconicity. “*Around 50% of the American signs are of iconic characteristic, namely, their shapes are interrelated to meanings*”(Woll, Kyle 2004). Iconicity could be found in different aspects of spoken language too, as the study on *Iconicity in the speech of children and adults* (Perry et al., 2018) suggests. The following critique closely examined the article mentioned above and critically assesses its contents.

2. Critique of theoretical Considerations:

The article *Iconicity in the speech of children and adults* (Perry et al., 2018) began with its theoretical background in the introduction part. It pointed out the difficulty of children understanding and producing words at their early age. Then one possible explanation might be iconic words are made good use of. The article proved iconicity could assist acquire and generally decode the meaning of new words from previous experiments by adult participants, English-learning preschoolers and children of 14 months old. Previous studies also show children’s awareness of iconicity may facilitate them to acquire new words by narrowing down speculative meanings and the earliest picked-up words are most iconic. The article assessed aims to “*test whether iconicity bears a relationship not just to the age at which words are learned, but also to how frequently adults and children apply those iconic words in their conversation*”(Perry et al., 2018). Specifically speaking, it tests what part of iconicity play in the actual usage of words and how it influences children to learn spoken language along with their development.

Unfortunately, there are few things needed to point out in the literature review part.

A.Theoretical background

The theoretical framework hasn’t been identified. The theory and keywords were not quite much adequately introduced. For instance, what’s the connotation of iconicity in linguistics? Compared to the universally acknowledged longstanding view---- arbitrariness, iconicity is still quite a new concept, though phonetic iconicity can be found in around “*35 European Languages by a recent cross-linguistic study*”(Körtvélyessy 2011). Thus, the theory of iconicity should be explained with specific examples in a contextual background. Given the aim put forward, the article did illustrate the previous studies on the relationship between iconicity and word acquisition. But it missed the review of previous studies on spoken language acquisition from the perspective of iconicity. That makes the readers wonder what kind of breakthrough it makes in the research.

B. Sources of literature

The sources of literature should be expanded. Most of the sources were from research by Perry, Perlman and Lupyan, the exact writers of the article assessed, when it came to whether the words acquired first by children are more likely to bear most iconic features. More study results from other researchers are encouraged to be sourced here to prove the view coupled with their own previous studies.

Besides, one theory mainly came with no reference, probably out of empirical nature. In the article, the authors said: “*theoretically, once a word is learned, it could be used equally often as other already-learned words*(Perry et al., 2018)”. Where does the theory come from? Though the article challenged this claim, this source of this claim should still be referred to.

Last but not the least, though the article stated research questions and aims, “It’s desirable to provide *a null hypothesis or possible alternative hypotheses or a level of confidence in advance at which the null hypothesis may be overturned*”(Henning 1986).

3.Critique of Methodology

A quantitative methodology was applied in the article to test the following hypotheses: whether iconic words are still gained earlier based on a larger data-set and whether iconic words are more frequently found in children’s speech and whether children-directed speech is characterized with more iconicity than adult-directed speech. Through Amazon Mechanical Turk, 1593 native local Americans were involved in the study. The stimuli were 2117 English words, with 592 are from MCDI and 1592 new words to expand the research data-set. “*The 1525 new words were chosen to maximally cover relevant psycholinguistic datasets of age of acquisition and concreteness norms*(Perry et al., 2018)”. The authors adopted *adult ratings from Brysbaert, Warriner, and Kuperman (2014) as a way of word concreteness*(Perry et al., 2018). First, the participants were instructed by the definition of iconicity and offered specific examples of “*what an iconic, arbitrary, and ‘opposite’ meaning for a word might be based on previous studies. And then they rated one word at a time, on a scale ranging from –5 (opposite) to 5 (iconic)*”(Perry et al., 2018).

A. Merits of Methodology

The quantitative methodology with questionnaires on scale rating was effective, as “quantitative interrelations bear huge significance for fundamental research but they can also be used and applied in such fields as language teaching, natural language processing and computational linguistics, etc.(Dmitrieva 2015)...”. The quantitative methodology showed an advantage in the wider scope of participants and broader data-set compared with previous studies, especially those 1525 new words added to test the theory could expand the word acquisition for children’s early development.

But research design was not very clearly identified and the reliability and validity should be also further verified.

B. Loopholes and Suggested improvement

In terms of research design, “*there are mainly three kinds of quantitative studies, namely, true experimental, quasi-experimental and non-experimental designs*”(Coughian 2007). The article failed to demonstrate the following two aspects. First, the sample and the adequate amount of samples were not justified in the paper. Though 1593 participants is fairly a large number of people, is that amount of sample enough to justify the hypothesis? Second, clarification of including and excluding criteria of samples was not mentioned either, so it’s not clear how the participants were chosen, such as the educational background of those 1593 participants was not known yet. Were they selected randomly or systematically? Were the participants

stratified? Can they represent the general public? According to the official website of Amazon Mechanical Turk, “*anyone over 18 could register and sign up as a worker. There are no education or skill requirements to work at Amazon Mechanical Turk*”(Downs 2018). Thus, the educational background varied from one participant to another and the demographic population was unclear. Besides, “*the AMT workers are anonymously taking the survey under the contract of its terms of service, then it’s very difficult to confirm specific demographic details*”(Crump et al. 2013). And those participants might not fully understand the complex instruction if without much educational background, as the experiments involved in the distinction between arbitrariness and iconicity. Therefore, the authors should specify the choosing standard of samples in the article, the procedures to compute this number, or at least set an educational background limit and target specific demographic before taking experiments.

In terms of the experimental environment, there is still a lot to be filled in the article, such as how specifically those experiments were undertaken and controlled, and how to guarantee the participants to take the survey seriously. What if the absent-minded participants were experimenting while engaging in games or they were finishing the experiment at their fastest speed just to get the financial reward or kill time? Thus, specific measures to control the experiment environment should be illustrated in detail to convince the readers, for instance, techniques to prevent the participants from engaging in other APPs while running surveys/questionnaires should be set up, and trials should be required to be completed quickly and accurately. And ethical considerations should still be pointed out. Though those AMT workers were kept anonymously under its terms, they should still be informed about the research nature to raise their awareness of seriousness.

Because of the lack of description about the experimental environment and adequate research design, the reliability and validity of the experiment and corresponding results might be harmed and diluted.

Furthermore, an qualitative methodology should also be considered as quoted in “*If the purpose is to construct a theory or a theoretical framework that reflects reality rather than the researchers own views or previous research results, one may need qualitative methods that support the discovery of theory in data*(Atieno 2009).” For example, selected interviews with those participants should be arranged to observe whether participants are experienced in telling the difference between arbitrariness and iconicity and check if their rating scale is reasonable and reliable. Some interviews with those 1593 participants should also be done on how they finish the experiment as qualitative samples to check if the experiment was crumbled with distraction.

3. Critique of Results

The results of the data could be divided into two parts: age of acquisition and frequency in speech.

As “*overall word frequency, concreteness and word length influence age of acquisition*(Perry et al., 2018)”, the study controlled the above factors and found out

iconicity reliably predicted of age of acquisition for those 2117 words. That's to say iconic words were acquired earlier by children than words rated lower in iconicity.

For frequency in speech, children tended to use iconic words more frequently, but words low in iconicity become more frequent than words high in iconicity as they grew older and the average iconicity of words was debilitated correspondingly. In adults' speech, the iconicity effect depended on whether he/she was speaking to a child or another adult. Words rated lower in iconicity were more frequently found in grown-up conversations, whereas words of more iconic property were more frequently uttered when adults were talking to children. Finally, it revealed that iconicity did affect children's word acquisition and usage in their early development but the effect became less prominent along with their development. With R version 3.3.1, the article applied linear models or linear mixed-effects models to analyze the data. It's well presented to prove the hypotheses put forward at the beginning of the article. It also speculated the possible reasons behind those phenomenon in the discussion part, and further research recommendations and limitations were also unfolded at the end of the article, such as the consequences of iconicity in speech.

It's a pity to say that the clarification of data, results and implications still have room to be improved, though the results supported the previous hypothesis in an overall sense. For one thing, not only the effect of iconicity on the age of acquisition should be emphasized, but the possible words that are easily and earlier picked up by children should also be highlighted in the article. As a result, it might speed up children's language acquisition through learning or instructing words with more iconic quality first. For another, if possible, data analysis about frequency in children's speech could not just include the tendency change of iconicity in children's speech as they grow, but also dig out the turning point of this change, such as when the change begins. Hence, it might illuminate when is more appropriate time to develop children's language ability for parents or language teachers.

4. Conclusion

Generally speaking, the article assessed reviewed the recent development of iconicity's implication on language development and furthered research area by proving its actual role in children's speech and language advancement through extended experiments. A broader and deeper literature review with broader sources is suggested to be compared and contrasted in terms of limitations and strengths, and the quantitative research methodology should be scrutinized and coupled with a qualitative methodology to consolidate its reliability and validity.

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