Available online: https://journal.uny.ac.id/v3/jpa
Jurnal Pendidikan Anak, Volume 13 (1), 2024, 14-25

Validity and Reliability Tests of Ahmad Dahlan Linguistic Test (ADLT)

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ARTICLE INFO

Article history:
Received:April, 30 2024
Revised: May, 05 2024
Accepted: May, 30 2024

Keywords:
Language development, early childhood, instrumen of assessment, instrument validity, Aiken's V data analysis

bit.ly/jpaUNY

ABSTRACT

Language development assessment tools for early childhood currently often refer to the Developmental Milestones Standards for Children (STPPA), based on core competencies and basics in the 2013 Early Childhood Education curriculum. These standards are used as references for development to ensure age-appropriate play activities for children. However, language development assessment tools for broader use still require further development to effectively identify children's language development. The aim of this study was to develop a language development assessment tool for early childhood, focusing on phonetics, semantics, and syntax according to Otto's theory (2015), to enable early detection of language delays in children. The researchers conducted three stages, including tool development, validation by experts, and testing on a limited sample. Although the tool was validated by five professors with Aiken's V scores > 0.8 and an overall reliability of 0.739, the semantic aspect was found to be unreliable (Cronbach Alpha < 0.7). Therefore, while the Early Language Detection Tool (ADLT) is considered valid and reliable, it still requires further adjustment to better suit the context of early childhood.

INTRODUCTION

Language serves as a means of communication for humans to transmit and receive information. Unlike animals, the use of language in humans serves specific purposes such as building relationships, persuasion, recreation or entertainment, and planning for the future. Noam Chomsky, a prominent figure whose ideas have influenced the development of linguistics, posited that every human being is born with a language faculty (Barman, 2012), referred to the Language Acquisition Device (LAD). According to Chomsky, children are born with an innate capacity to understand language and then use it (Harbi, 2020).

Jerome Bruner, a cognitive psychologist, proposed the Language Acquisition Support System (LASS) theory. Bruner suggested that language acquisition begins before a child can utter their first words. In this regard, acquisition starts when a mother and baby engage in interaction to communicate and share reality together (Bruner, 1985). Fundamentally, the LASS theory does not contradict the LAD theory, but Bruner emphasizes that the LAD cannot function without adult assistance. Adults facilitate infants in the language transaction system and help activate their innate LAD. In other words, an infant can enter the language community through the interaction of LASS and LAD, which is inseparable from

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ISSN 2302-6804 (print), ISSN 2579-4531 (online)

the cultural context in which the language is accessed.

Language development in early childhood occurs gradually. Before a baby can articulate a meaningful word, their vocal organs go through the stages of crying, cooing, and babbling. These stages dominate language acquisition and require adult responsiveness (Hussain, 2017). Not only infants but also children who have mastered early childhood require parental responsiveness to aid their language development. A study by Luo et al. (2019) revealed that children in the best caregiving practices demonstrate better language, cognitive, and socio-emotional development compared to those in passive caregiving practices. Besides providing responses, parents should also possess knowledge of their child's language development stages according to their age. By understanding these stages, parents can be vigilant about language difficulties experienced by their children. Research by Sachse & Suchodoletz (2008) concluded that parental reports on a child's language development are a valid and efficient tool for assessing productive language abilities and expressive language delays in toddlers aged two years. This finding supports Thompson and Thompson's (Thompson & Thompson, 1991) assertion regarding the importance of parental input in early detection of language disorders in children. Thus, the aforementioned studies underscore the crucial role of parents in the language development process of young children, from early identification to support and guidance.

Language proficiency is a crucial stage in a child's development. Through language, children can communicate and interact effectively with others. Chomsky (Chomsky, 2006) suggests that language development occurs gradually from infancy to adulthood until reaching a proficient stage. He states that a child's language acquisition is derived from the growing and developing human brain until around the age of 12, after which there is a decline in developmental capability known as the critical period (Harbi, 2020). Therefore, parents and teachers can maximize their roles in stimulating a child's language development. Indriyani (2016)distinguishes between language and speech, explaining that language encompasses all forms of communication, whether oral, written, through gestures, body language, or facial expressions, whereas speech refers to oral communication.

Otto suggests that both oral and written language have receptive and expressive forms (Otto, 2015). Receptive forms include listening and reading, while speaking and writing constitute expressive language abilities. Oral language proficiency serves as the foundation for acquiring written language skills. Otto further delineates five aspects of language, both oral and written, necessary for effective communication: phonetics, semantics, syntax, morphology, and pragmatics. Phonemes are the smallest linguistic units of sound that form words when combined with other phonemes. Semantic knowledge refers to word labels that determine concepts and semantic networks, or schemas, representing the interconnections between concepts. Syntax comprises grammatical rules governing how words are combined to form meaningful sentences, phrases, or utterances. Morphology involves inflection and word formation in oral language pronunciation. Pragmatics, on the other hand, entails the varied use of language in different face-to-face interaction contexts, encompassing all aspects of language knowledge.

Language development milestones can be delineated based on age. According to Otto (2015), in the phonetic domain, children aged 3-6 typically master the pronunciation of letters 'p, m, h, n, w, b, k, g, d, ng, j, t, f, ny, r, l, s, c, sy, z'. At age 3, there may be some pronunciations not yet mastered but usually improve with age. Letters often not pronounced by 3-year-olds include 'c, k, r, z', etc. In terms of semantics, children are expected to name objects around them and their functions, as well as categorize them based on certain criteria. However, the proficiency of children aged 3-6 in this aspect varies according to difficulty levels. Six-year-olds can generally name and describe more objects than 3-year-olds. Regarding syntax, children are expected to construct complete sentences. Typically, the sentence structure of 6-year-olds is more complex than that of 5-year-olds and so forth.

Currently, tools for assessing language development in young children often refer to the Early Childhood Development Standard Achievement Levels (STPPA). STPPA is developed based on core competencies and basic competencies that must be achieved by early childhood education students, covering cognitive, physical-motor, language, religious and moral, social and emotional, and artistic aspects (2013 early childhood education curriculum). Instruments based on STPPA are generally used for preparing the learning environment and activities in schools. However, STPPA is less practical when used as an initial instrument for detecting language delay symptoms in young children. Therefore, with the development of language development measurement tools based on Otto's concept (2015), both parents and teachers can use them to assess a child's language proficiency in terms of phonetics,

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ISSN 2302-6804 (print), ISSN 2579-4531 (online)

semantics, and syntax. This measurement tool is henceforth named the Ahmad Dahlan Linguistic Test (ADLT).

METHOD

This study employed a quantitative descriptive method based on the results of content validity calculated using the Aiken formula. Additionally, to ascertain the measurement tool's reliability, a limited-scale trial was conducted using the quantitative and technical methods of Cronbach's Alpha. Sugiyono stated that the population is the generalization area consisting of subjects or objects with specific qualities and characteristics chosen by researchers for study and subsequent conclusions (Sugiyono, 2015). The population in this study comprised children aged 3-6 years. Purposive sampling technique was utilized in this study. According to Sugiyono, purposive sampling is a sampling method selected based on specific considerations (Sugiyono, 2020). This method was chosen because the research respondents to be tested with the measurement tool must meet certain criteria set by the researcher. The criteria included children aged 3-6 years, particularly those residing in the Special Region of Yogyakarta (DIY). To conduct this trial, the researcher selected three partner schools of Early Childhood Education Teacher Education at Ahmad Dahlan University. The number of children involved in the reliability testing of the items was 90, with each school sending 30 children to participate. The percentage of sample size based on age can be seen in Table 1 below.

Table 1. Sample Size in Terms of Age

Age	Number of Children	Percentage
3 years	8	8%
4 years	24	27%
5 years	44	49%
6 years	14	16%
Total	90	100%

Scale Development

The stages of developing a scale for early childhood language development refer to the basic steps in constructing a psychological scale, including identifying measurement objectives (establishing psychological constructs), operationalizing concepts (behavioral indicators), scaling, selecting stimulus formats, writing and reviewing items, validity testing, scale pilot testing, item analysis, item selection, and reliability testing (Azwar, 2012). The research flow can be seen in Figure 1.

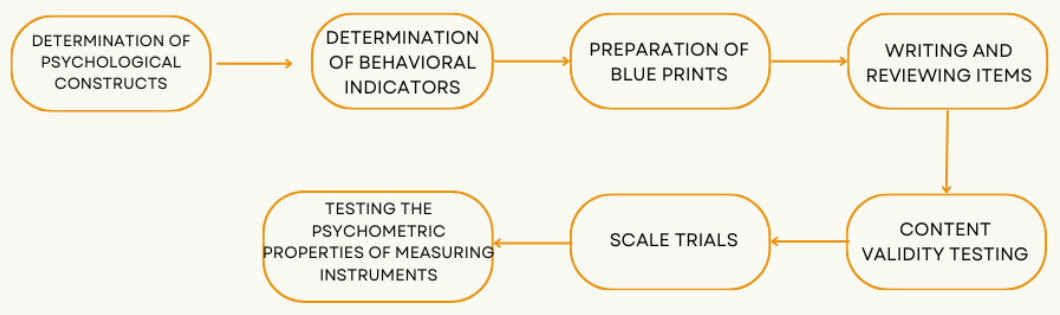

Figure 1. Research Flow for the Development of an Early Childhood Language Development Measurement Tool

The scale was developed based on Otto's theory of early childhood language development, which consists of five aspects: phonetics, semantics, syntax, morphemics, and pragmatics (Otto, 2015). However, in the development of ADLT, only three aspects were adopted: phonetics, semantics, and syntax. This decision was made considering that indicators appearing in the morphemic and pragmatic aspects could be integrated into the other three aspects, thus these two aspects were not explicitly included. Table 2 below shows the blueprint of ADLT, including its aspects, indicators, and items.

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Table 2. ADLT Blueprint

Language Aspects	Description	Indicator	Sub Test	No. of items
		3-6 years of age		
Phonetics	Phoneme is the smallest linguistic unit of sound, forming a word when combined with other phonemes. Phonemes consist of sounds considered as a single unit understandable by listeners. Examples: /b/, /m/, /k/	Children can articulate the following consonant letters: p,m,h,n,w,b,k,g,d,n,j,t,f,ny,r,l,s, c,sy,z	Sound Letter Pronunciation	20
Semantics	Semantic knowledge refers to word labels that determine concepts and also semantic networks, or schemas, representing the interconnections between concepts. For example, the word "ball" refers to the idea of a round object with certain rolling and bouncing properties, often used in games or other physical activities. In acquiring concepts, children learn that objects and actions with similar characteristics or functions can be grouped into the same or related categories. For example, when a child knows that a small, round, red plastic object is called a "ball," they may see similarities when they see a white soccer ball and call it a "ball," or they may attempt to roll the balloon to the floor.	1. Children can express concepts of objects around them. 2. Children can mention the functions of objects. 3. Children can group objects according to their categories. 4. Children can sort items based on categorization (e.g., color, shape, letter, number).	1. Object Recognition (name, function) 2. Object Grouping (color, shape, and type)	10 10
Syntax	Grammar rules governing how words are combined to form meaningful sentences, phrases, or utterances. Syntax knowledge is the ability to effectively use word combinations to form meaningful expressions. The combined words have grammatical rules to form meaningful sentences, phrases, or utterances. This knowledge involves arranging words to form meaningful sentences.	Children can express sentences consisting of subject - verb - object.	Image Explanation	.0

Table 3 below is an example display of subtests in the ADLT. The images used have considered the likelihood that children are familiar with the names and objects. The images used in the ADLT are original illustrations by the researcher and have not been published before.

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Table 3. Sample of ADLT Subtest for Early Childhood

<table>
<tr><th>Aspects</th><th>Subtest</th><th colspan="3">Display sample</th></tr>
<tr><td>Phonetics</td><td>1</td><td colspan="3">
Sub-Tes 1. Pelafalan Bunyi Huruf

Tujuan : Sub tes ini bertujuan untuk mengetahui kemampuan anak dalam pelafalan huruf-huruf tertentu (fonem). Fonemik merupakan kemampuan paling dasar pada individu untuk dapat menggunakan bahasa khususnya bahasa oral. Anak pada rentang usia yang berbeda memiliki kemampuan yang berbeda pula dalam pelafalan huruf-huruf abjad.

Petunjuk : Mintalah anak untuk menirukan Anda dalam melafalkan kata-kata dalam daftar berikut ini. Catatlah apa yang dilafalkan anak. Beri skor 1 apabila anak mampu melafalkan persis seperti contoh yang Anda beri, dan beri skor 0 apabila anak melafalkan bunyi yang lain.

Daftar Kata
<table>
<tr><th>No.</th><th>Kata</th><th>No.</th><th>Kata</th><th>No.</th><th>Kata</th><th>No.</th><th>Kata</th></tr>
<tr><td>1.</td><td>Papa</td><td>6.</td><td>Debu</td><td>11.</td><td>Cicak</td><td>16.</td><td>Nyanyi</td></tr>
<tr><td>2.</td><td>Mama</td><td>7.</td><td>Nila</td><td>12.</td><td>Tali</td><td>17.</td><td>Zebra</td></tr>
<tr><td>3.</td><td>Hijau</td><td>8.</td><td>Wadah</td><td>13.</td><td>Foto</td><td>18.</td><td>Gigi</td></tr>
<tr><td>4.</td><td>Bola</td><td>9.</td><td>Ngantuk</td><td>14.</td><td>Roda</td><td>19.</td><td>Lele</td></tr>
<tr><td>5.</td><td>Kamu</td><td>10.</td><td>Jari</td><td>15.</td><td>Susu</td><td>20.</td><td>Syawal</td></tr>
</table>
</td></tr>
<tr><td>Semantics</td><td>2</td><td>
Sub-Tes 2. Pengenalan Benda di Sekitar

Tujuan : Sub tes ini bertujuan untuk mengetahui kemampuan anak dalam menentukan konsep suatu benda sesuai dengan ciri dan fungsinya.

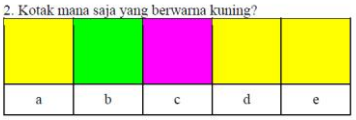
Petunjuk : Mintalah anak untuk menyebutkan nama benda-benda beserta fungsinya. Catatlah apa yang dilafalkan anak. Beri skor 1 apabila anak mampu melafalkan persis seperti contoh yang Anda beri, dan beri skor 0 apabila anak melafalkan bunyi yang lain.

Daftar Gambar
1. Nama benda di samping ini adalah .....
Fungsi benda di samping ini adalah .....
2. Nama benda di samping ini adalah .....
Fungsi benda di samping ini adalah .....
</td><td>3</td><td>
Sub-Tes 3. Pengelompokan Benda

Tujuan : Sub tes ini bertujuan untuk mengetahui kemampuan anak dalam pengelompokkan benda-benda di sekitar. Kemampuan anak dalam mengelompokkan benda memberikan gambaran bagaimana anak memahami keterkaitan antarobjek meksipun memiliki nama yang berbeda-beda.

Petunjuk : Mintalah anak untuk menujukkan gambar-gambar yang termasuk dalam kategori berikut. Lingkarilah huruf di dalam tabel berdasarkan hasil respon anak. Beri skor 1 apabila anak mampu mengelompokkan secara benar, dan beri skor 0 apabila anak belum mampu mengelompokkan secara benar.

Daftar Kategori dan Gambar Benda
1. Kotak mana saja yang berwarna merah?

a b c d e
2. Kotak mana saja yang berwarna kuning?

a b c d e
</td></tr>
<tr><td>Syntax</td><td>4</td><td colspan="3">
Sub-Tes 4. Penjelasan Gambar

Tujuan: Menghasilkan kalimat atau frasa atau ucapan yang bermakna yang terdiri dari subjek- kata kerja - objek. Pengetahuan sintaksis merupakan kemampuan menggunakan kata secara efektif dengan menggabungkan kata-kata untuk membentuk ekspresi yang bermakna.

Petunjuk: Mintalah anak untuk mengungkapkan aktivitas atau cerita berdasarkan gambar yang tersedia. Catatlah hasil respon anak. Beri skor 2 apabila anak mampu mengungkapkan kalimat yang terdiri dari subjek - predikat - objek, skor 1 apabila anak belum mampu mengungkapkan kalimat secara lengkap dan beri skor 0 apabila anak belum mampu mengungkapkan kalimat secara benar.

Apa yang kamu lihat dari gambar disamping?
.....
Apa yang kamu lihat dari gambar disamping?
.....
</td></tr>
</table>

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ISSN 2302-6804 (print), ISSN 2579-4531 (online)

Validity Test with Professional Judgment

Validation test with professional judgment was conducted, considering the importance of expertise in reviewing this measurement tool. Three categories of experts were involved: psychologists (2 individuals), early childhood education specialists (2 individuals), and Indonesian language experts (1 individual). The validation test utilized Aiken's V technique, where validators provided assessments ranging from 1 to 5 for each item formulated by the researcher (DeVellis, 2016; Kline, 2015). When assigning scores, validators had to consider the alignment between the items and the underlying indicators or aspects of this measurement tool (Drost, 2011). A score of 1 represented the lowest score, indicating irrelevance, while a score of 5 represented the highest score, indicating high relevance.

Limited Trial

A limited trial was conducted on ADLT with 90 students from three early childhood education institutions: TK Aisyiyah Nuraini, TK Nyai Ahmad Dahlan, and TK ABA Tegalsari. During the trial, the researcher was assisted by six students who were proficient in communicating with children, detail-oriented, and patient. The atmosphere of the ADLT trial process is depicted in Figure 2 below.

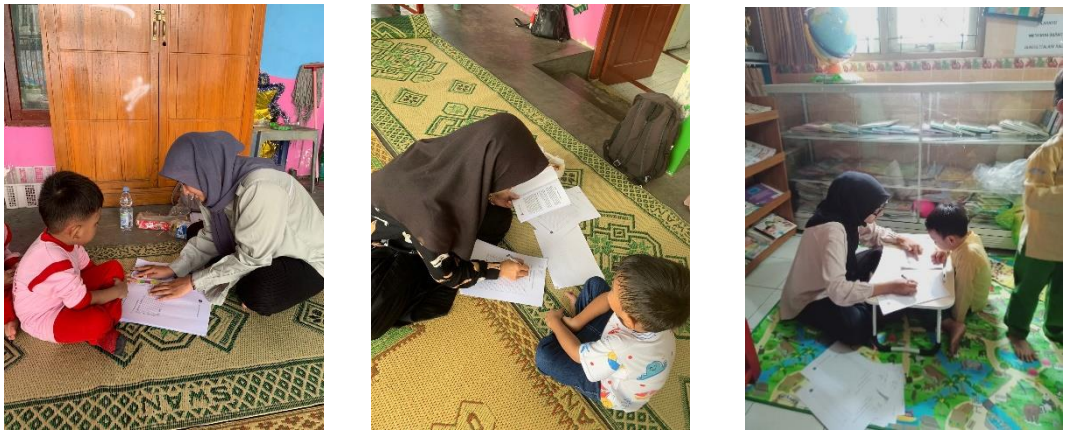

Figure 2. ADLT Trial in Three Schools

Data collection for the trial was conducted from February 15th to 17th, 2024, at each school location. The children involved ranged from 3 to 6 years old, as they fall within the early childhood age range. Data collection was performed one by one, with each child requiring approximately 10-15 minutes.

RESULT AND DISCUSSION

Result

Validity Test Results with Aiken's V Technique

The minimum acceptable value for validity is determined by 5 raters (experts) referring to the minimum V value table accepted at a 5% error level, which is 0.8 (Aiken, 1985). Based on Table 4, it can be interpreted that all items in the phonetic aspect have Aiken's V index above 0.8, thus it can be concluded that all test items are considered valid. In the semantic aspect, the research team composed 20 items and divided them into 2 subtests, considering the differences in indicators in this aspect. Subtest 2 reveals the indicator of a child's ability to express concepts of objects around them and mention their functions, while subtest 3 reveals the indicator of a child's ability to group objects according to their categories (such as color, shape, letter, number).

Based on Table 5, the analysis of Aiken's V index on the items in the semantic aspect subtest 2 shows that out of the 10 items, two items are invalid, namely item 3 and item 9. Meanwhile, the remaining 8 items received a V value ≥ 0.8, thus considered valid. Furthermore, in subtest 3, all 10 items received a V value ≥ 0.8, thus considered valid.

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Table 4. Aiken Index Analysis Result for Phonetics

Subtest	Item number	Value	Vtable (Minimum)	Conclusion
Subtest	1	0.95	0.8	Valid
	2	1	0.8	Valid
	3	0.9	0.8	Valid
	4	1	0.8	Valid
	5	0.95	0.8	Valid
	6	1	0.8	Valid
	7	0.95	0.8	Valid
	8	1	0.8	Valid
	9	0.95	0.8	Valid
	10	0.9	0.8	Valid
	11	1	0.8	Valid
	12	1	0.8	Valid
	13	1	0.8	Valid
	14	1	0.8	Valid
	15	1	0.8	Valid
	16	1	0.8	Valid
	17	1	0.8	Valid
	18	0.95	0.8	Valid
	19	0.9	0.8	Valid
	20	0.95	0.8	Valid

Table 5. Aiken Index Analysis Result for Semantics

Subtest	Item number	Value	Vtable (Minimum)	Conclusion
Subtest 2	1	0.85	0.8	Valid
	2	0.9	0.8	Valid
	3	0.75	0.8	Invalid
	4	0.85	0.8	Valid
	5	0.8	0.8	Valid
	6	0.85	0.8	Valid
	7	0.9	0.8	Valid
	8	0.9	0.8	Valid
	9	0.7	0.8	Invalid
	10	0.85	0.8	Valid
Subtest 3	1	1	0.8	Valid
	2	1	0.8	Valid
	3	1	0.8	Valid
	4	1	0.8	Valid
	5	1	0.8	Valid
	6	0.95	0.8	Valid
	7	0.9	0.8	Valid
	8	1	0.8	Valid
	9	1	0.8	Valid
	10	0.8	0.8	Valid

Table 6. Aiken Index Analysis Result for Syntax

Subtest	Item number	Value	Vtable (Minimum)	Conclusion
Subtest 4	1	0.95	0.8	Valid
	2	0.95	0.8	Valid
	3	0.95	0.8	Valid
	4	0.8	0.8	Valid
	5	0.75	0.8	Invalid
	6	0.8	0.8	Valid
	7	0.95	0.8	Valid
	8	0.85	0.8	Valid
	9	0.8	0.8	Valid
	10	0.95	0.8	Valid

Based on Table 6, the analysis of Aiken's V index on the items in the syntax aspect subtest 4 reveals that out of the 10 items, one item is invalid, which is item number 5 with an Aiken's value of 0.75. However, the remaining 8 items received a V value ≥ 0.8, thus considered valid.

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ISSN 2302-6804 (print), ISSN 2579-4531 (online)

Reliability Test Results with Cronbach Alpha Technique

Table 7. Summary of Reliability Test Results for the ADLT instrument

Cronbach's Alpha count	Cronbach's Alpha Reference	Decision Making Criteria	Decision
0.739	0.6	If Cronbach's Alpha Calculation > Reference, the instrument is reliable	The Test Instrument is reliable.

Based on the calculation in Table 7 for Cronbach's Alpha reliability test of 46 items (excluding items 1, 2, 4, and 35 due to lack of score variation), the result is 0.739 > 0.6, indicating that this measurement tool is reliable. A measurement tool is considered reliable if it has a Cronbach Alpha value > 0.6; if the Cronbach alpha value is < 0.6, then the measurement tool is considered unreliable (Arikunto, 2010).

Table 8. Reliability Test of Each Aspect of ADLT

Aspects	Cronbach's Alpha count	Cronbach's Alpha Reference	Decision-making satisfaction	Decision
Phonetics	0.759	0.6	If Cronbach's Alpha count > reference, the instrument is considered reliable	The Test Instrument is reliable.
Semantics	0.404			The Test Instrument is not reliable
Syntax	0.867			The Test Instrument is reliable.

Based on the calculation in Table 8 for Cronbach's Alpha reliability test per aspect, the results indicate that out of the 3 aspects tested, one aspect, namely the semantic aspect, has an alpha value of 0.404 < 0.6, indicating it is unreliable. Meanwhile, the phonetic and syntactic aspects have alpha values classified as reliable.

Discussion

The validity test was conducted to strengthen the objectivity of the measurement tool or scale that was developed. Agreement among several competent evaluators or expert judgments is necessary to ensure that the measurement tool or scale is aligned with its objectives (Azwar, 2017). In the assessment process, experts may have differing opinions, but if the majority agrees that an item is relevant, then that item can be considered to support the content validity of the scale. Agreement among evaluators provides valuable insights into the robustness of the content validity of the scale. This collective assessment process enhances the reliability and credibility of the measurement tool, thus contributing to its effectiveness in measuring the intended construct (Azwar, 2014).

The results of the validity test involving five experts with diverse academic backgrounds, including psychology, early childhood education, and Indonesian language, provide a strong indication of the validity of the instrument used. This diversity of backgrounds offers a broad perspective in assessing the relevance and suitability of items within the instrument to the measured construct. Additionally, Aiken's V values ranging from 0.8 to 1 indicate a high level of agreement among the experts regarding the content validity of the scale. This indicates that each item used has been considered relevant and consistent with the construct measured by the expert panel (Boateng et al., 2018). Thus, these results provide additional confidence in the reliability and validity of the instrument used in measurement.

Furthermore, Aiken's V values approaching or reaching 1 indicate high consistency in the experts' assessments of the relevance of each item in the instrument. This confirms that not only is there agreement in the assessments, but also a high level of confidence in the overall content validity of the scale (Morgado et al., 2017). Thus, these results strengthen the argument that the instrument used is a reliable tool for measuring the intended construct. With support from various academic backgrounds and high consistency in assessments, the validity of the instrument is proven to be robust and reliable in the relevant measurement context.

Reliability test serves to determine how reliable or trustworthy a measurement tool is (Azwar, 2012). Reliability testing is a crucial step in assessing how consistent a measurement tool can produce consistent results over time. This allows researchers or practitioners to assess the extent to which the measurement tool can be relied upon in decision-making or further research (Lamm et al., 2020). By

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ISSN 2302-6804 (print), ISSN 2579-4531 (online)

evaluating the stability or consistency in measurement, reliability testing provides a strong foundation for confidence in the results obtained from the measurement tool. Therefore, it is essential to thoroughly validate measurement instruments before using them in a specific context.

Based on the calculation of Cronbach's alpha from 46 items (excluding items 1, 2, 4, and 35 due to lack of score variation), the result is 0.739 > 0.6, indicating that this measurement tool is reliable. A measurement tool is considered reliable if it has a Cronbach's Alpha value > 0.6; if the Cronbach's alpha value is < 0.6, the measurement tool is deemed unreliable(Arikunto, 2010).The Cronbach's alpha value of 0.739 for the 46 items exceeds the minimum threshold required for confidence (0.6) (Melvina & Julia, 2021). This indicates that the measurement tool is reliable, as the high Cronbach's alpha value reflects high consistency among the items in the scale (Foxman, 2012; Scott et al., 2019). This reliability assessment is crucial to ensure that the data obtained from this measurement tool are accurate and reliable, necessary for proper data analysis and interpretation. The high Cronbach's alpha value indicates that the items in the scale are highly interconnected and consistent with each other (Melvina & Julia, 2021).

Based on the calculation of Cronbach's alpha reliability test per aspect, the results show that out of the three aspects tested, one aspect exhibits a low alpha value, namely the semantic aspect, with an alpha value of 0.404. This value is below the generally accepted reliability standard, which is typically considered acceptable at a minimum of 0.6 (Faizal & Alimudin, 2018; Scott et al., 2019). Therefore, the semantic aspect in this test cannot be considered reliable or dependable for use in measurement. The limitation in reliability for the semantic aspect may be due to variation or ambiguity in the questions or items related to semantic concepts, requiring improvement or refinement in the measurement instrument used.

On the other hand, the phonetic and syntactic aspects in the testing exhibited sufficiently high alpha values, indicating good reliability in measurement. This confirms that both aspects are consistent and dependable in providing consistent results over time. With alpha values meeting accepted reliability standards, the phonetic and syntactic aspects in the measurement instrument can be relied upon for use in relevant research or evaluation contexts (Kilic, 2016; Kükürtcü et al., 2021; Tavakol & Dennick, 2011). Therefore, focusing on the development and maintenance of semantic aspect reliability may be a priority to improve the measurement tool to deliver more consistent and dependable results overall.

In conclusion, the Cronbach's alpha reliability test results indicate that the semantic aspect in the measurement instrument does not achieve the generally accepted level of reliability, while the phonetic and syntactic aspects are proven to be reliable. These findings provide important insights for researchers to identify and address weaknesses in the measurement instrument, emphasizing the importance of reliability testing in ensuring the quality and validity of the measurement tools used in research or evaluation (Maulana, 2023).

CONCLUSION

Based on the research findings, several conclusions can be drawn. The content validity of the Ahmad Dahlan Linguistic Test (ADLT) instrument was determined through expert agreement with Aiken's index calculation. The content validity of the ADLT instrument resulted in 38 valid items with scores ≥ 0.8 and 2 invalid items with scores < 0.8. Additionally, the overall reliability test yielded a value of 0.739. However, the reliability test results per aspect indicated that one aspect was unreliable, namely the semantic aspect, which produced a Cronbach's Alpha score of 0.404. Based on these results, we recommend that future researchers review the semantic aspect questions to make them more contextually appropriate for early childhood. This research is still based on the initial trial phase of the ADLT, which aimed to assess item reliability. Normative testing of the scale, aimed at establishing norms, has not yet been conducted in this study. Therefore, further development of the ADLT is still needed to make it practical for use by teachers and parents.

ACKNOWLEDGMENT

We express our gratitude to the Research and Community Service Institute (LPPM) of Ahmad Dahlan University for funding this research. We also extend our thanks to Karabuk University, Turkey,

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ISSN 2302-6804 (print), ISSN 2579-4531 (online)

for the opportunity to collaborate on this research. Our appreciation also goes to the partner schools of the Early Childhood Education Study Program at Ahmad Dahlan University involved in this research: TK Aisyiyah Nyai Ahmad Dahlan Yogyakarta, TK ABA Tegalsari Yogyakarta, and TK Aisyiyah Nur Aini Yogyakarta.

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ISSN 2302-6804 (print), ISSN 2579-4531 (online)

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ISSN 2302-6804 (print), ISSN 2579-4531 (online)