JOURNAL OF LINGUISTICS, CULTURE AND COMMUNICATION
Vol.03, No.01, 2025: June: 181-209, **E-ISSN:** 2988-1641
https://jolcc.org/index.php/jolcc/index

Development of a Speaking Skill Assessment Rubric for Children in English Based on the Universal Design for Learning Approach in Inclusive Schools

Lenny Solo[1], Ninuk Lustyantie[2], Fathiaty Murtadho[3]
[1,2,3]Universitas Negeri Jakarta, Applied Linguistic, Doctoral Program Postgraduate, Universitas Negeri Jakarta, Indonesia
Corresponding author E-mail: lenny.solo@mhs.unj.ac.id

Submission Track:
Received: 26-04-2025, Final Revision: 18-06-2025, Available Online: 20-06-2025

ABSTRACT
This study aims to develop an English-speaking skills assessment rubric for children with autism spectrum disorder (ASD) using the Universal Design for Learning (UDL) approach in an inclusive school setting. The research involved 24 regular students and one student with mild ASD in the 7th grade at Sekolah Alam Bekasi, offering a comparison framework. However, children with ASD have unique cognitive, social, and communication needs that differ from neurotypical students. Comparisons must therefore be approached carefully, considering these differences. The study followed Borg & Gall's Research and Development (R&D) model, starting with a needs analysis, followed by product design, expert validation, product revision, and limited testing. Data was gathered through questionnaires, interviews, and documentation. The needs analysis revealed that both teachers and parents require a flexible, inclusive, and ASD-sensitive assessment tool, especially for evaluating verbal and non-verbal communication skills. The resulting rubric is based on the three UDL principles: Multiple Means of Engagement, Representation, and Action and Expression, with specific, measurable, and context-appropriate indicators. Content validation by three experts in special education, language assessment, and inclusive pedagogy produced Aiken's V values between 0.85 and 0.95, indicating strong validity. A limited trial with five students with ASD demonstrated the rubric's effectiveness in assessing individual speaking abilities and guiding teachers in providing adaptive interventions. By incorporating both verbal and non-verbal aspects like gestures and eye contact, the rubric offers a fairer and more holistic assessment for students with ASD.
Keywords: assessment rubric, speaking, ASD, UDL, English language.

INTRODUCTION

Education is a fundamental right for every individual, including children with special needs such as autism spectrum disorder (ASD). The principles of equality and justice in education require a learning system that is responsive to the diverse characteristics of learners, including assessment (Moore, 2007), (Black & Wiliam, 1998), (UNESCO, 2005). Children with ASD have a unique learning profile, particularly in verbal communication skills, which often become a primary challenge in language learning, including English (Litton et al., 2017), (Paul & Fahim, 2014).

The difficulties experienced by children with ASD in expressive language, social processing, and sensory sensitivity often result in barriers to learning foreign languages (Gilhuber et al., 2023) (Mody et al., 2012). Conventional assessment models that emphasize explicit verbal performance and direct social interaction become less relevant when applied to students with diverse communication profiles (Leblanc et al., 2010); (P.A & D.C, 2009). On the other hand, speaking skills in English are an essential aspect of language learning as they support confidence, cognitive abilities, and social participation for children (Afrasiabi, 2018); (Bishop et al., 2017); (Brignell et al., 2018).

In Indonesia, the prevalence of children with ASD has significantly increased, with an estimated 2.4 million children in 2024 and around 500,000 new cases every year (Stefani, 2024). This figure highlights the urgency of developing a more inclusive education system, especially in the development of foreign language assessment tools such as English-speaking skills (Saputri et al., 2024).

Speaking skills, as part of language competence, play a significant role in building confidence, broadening perspectives, and strengthening the social skills of children with autism spectrum disorder (ASD)(Afrasiabi, 2018). Additionally, English speaking skills are also crucial in facilitating cross-cultural communication, providing children with ASD the opportunity to interact with the outside world.

In the context of an increasingly globalized world, English proficiency has become a highly valued skill in both professional and social settings, offering them more opportunities to participate in various aspects of life. Therefore, the development of English-speaking skills for children with ASD should be a priority in the inclusive education system. (Polok & Sadlik, 2022)

However, teaching speaking skills to children with ASD often faces more complex challenges compared to regular students. Children with ASD typically have difficulty with verbal communication aspects, such as clear pronunciation, organizing sentences, and interacting effectively in conversations (Volkmar, 2019). These challenges are compounded by social and sensory difficulties experienced by many children with ASD (Tager-Flusberg et al., 2006), making them more likely to avoid verbal communication or feel anxious in social situations. Therefore, the approach to teaching speaking for children with ASD needs to be adapted to their specific communication needs, considering alternative ways of communicating, such as using gestures, visual symbols, and other supporting media.

To ensure that assessment rubrics for children with autism spectrum disorder (ASD) can balance flexibility with the need for objective and standardized evaluation criteria, it is important to use personalized rubrics. Children with ASD have diverse communication styles, so the rubric must allow for adjustments based on their individual needs. For instance, some children may communicate using gestures or an Alternative and Augmentative Communication (AAC) system rather than speaking verbally. A rubric that includes non-verbal communication methods, such as gestures, body language, or visual communication devices, will ensure a more inclusive evaluation. Additionally, the use of an adaptive scale that replaces a "correct/incorrect" assessment with categories such as "effective," "somewhat effective," and "needs improvement" will provide flexibility in evaluating the child's speaking ability while considering their communication style.

In addition to flexibility in adjustments, it is also crucial to consider behavioral and contextual factors for children with ASD, such as social challenges or sensory sensitivities

that may affect their speaking abilities. The assessment rubric needs to account for different situations, such as the child's comfort in speaking in groups or one-on-one, as well as environmental factors that may impact their performance. Ongoing observation also plays an important role in the assessment, where teachers can track the child's progress in various speaking situations. With this approach, the evaluation becomes more holistic and provides a more accurate picture of the child's speaking skills while also considering external factors that influence their performance.

As an approach that can help understand and address the complexity of language learning for children with ASD, psycholinguistics plays a very important role. Psycholinguistics is a field of study that combines psychology and linguistics to explore the psychological factors and cognitive processes that enable humans to acquire, use, and understand language (Wikipedia, 2023)(Kompas, 2023). This science provides an in-depth explanation of how language structures are acquired, used in speech, and understood in communication (Chomsky, 1965; Carrol, 2008). Psycholinguistics covers various aspects, ranging from a person's ability to produce and comprehend speech to the internal processes that occur when someone uses language in everyday life. (Kompas, 2023; Wikipedia, 2023)

Understanding psycholinguistics in the context of children with ASD is crucial because it helps determine the appropriate teaching materials that match the students' language abilities at specific stages, making the teaching process more effective (Ikawati, 2014). Effective language teaching requires a deep understanding of the students' language abilities at particular stages. This understanding can help make teaching more efficient and effective by ensuring that the material presented can be accepted and understood according to the students' language development (Lisnawati, 2008). By understanding the stages of language development, teachers can select the most appropriate teaching methods to meet students' needs, thus optimizing the teaching and learning process.

Furthermore, psycholinguistics can assist teachers in more accurately identifying the language needs and abilities of students. This allows teachers to design teaching methods

that are better suited to the characteristics and language abilities of each student. By integrating psycholinguistic theories into teaching, teachers can better understand how students process language, address errors in language usage, and develop their language skills comprehensively. Therefore, the application of psycholinguistics in inclusive education is crucial to supporting the success of language teaching for children with ASD.

Existing psycholinguistic theories, which were largely developed for neurotypical learners, can be adapted to the unique language acquisition processes of children with autism spectrum disorder (ASD), but this requires thoughtful modification. While these theories offer valuable insights into language acquisition, they often assume typical cognitive and developmental patterns, which may not align with the experiences of children with ASD. For example, children with ASD often rely on non-verbal communication, such as gestures or Augmentative and Alternative Communication (AAC), rather than verbal language. Psycholinguistic theories can be adapted to incorporate non-verbal communication as a significant component, recognizing that these alternative forms of communication are crucial in the language development of children with ASD.

Moreover, psycholinguistic theories generally focus on cognitive processes such as phonology, syntax, and semantics, which may not develop in the same way for children with ASD. These children often struggle with abstract concepts and figurative language, which requires a more concrete and structured approach to teaching. Modifying these theories to include explicit, direct language instruction, visual supports, and clear, step-by-step teaching methods would better serve children with ASD. Additionally, these adaptations would need to address social communication deficits, as children with ASD often have difficulty with skills like turn-taking in conversation and understanding social cues, which are vital for successful language development.

Lastly, psycholinguistic theories must account for the sensory processing differences that children with ASD experience. These children may become overwhelmed by complex language input, requiring language lessons to be broken into manageable chunks. By

recognizing these sensory sensitivities and adjusting the teaching methods, such as using multisensory strategies or providing breaks, psycholinguistic theories can better cater to the needs of children with ASD. In conclusion, adapting traditional psycholinguistic theories by considering cognitive, social, and sensory differences will lead to more effective language teaching strategies, ultimately supporting the language development of children with ASD.

As the number of children with ASD increases, the development of adaptive and inclusive assessment of rubrics becomes increasingly important. Existing assessment rubrics fail to accommodate the non-verbal communication needs of children with ASD, which are often more dominant in their interactions (Astuti et al., 2022) (Umaini, 2025). By applying approaches such as Universal Design for Learning (UDL) in assessment rubrics, teachers can provide a fairer and more comprehensive evaluation that includes various forms of communication, both verbal and non-verbal. This allows teachers to assess the development of English-speaking skills in children with ASD more holistically and provide more accurate feedback that supports their communication development.

The Universal Design for Learning (UDL) approach can be practically implemented in typical classroom settings, even with limited resources, time constraints, or minimal training in inclusive education, by focusing on its core principles: multiple means of representation, engagement, and expression. Teachers can start by incorporating flexible teaching methods that cater to diverse learning needs. For example, instead of relying solely on traditional lectures or textbooks, teachers can use multimedia resources such as videos, audio recordings, or interactive apps to present content. This not only helps students access information in different ways but also supports children with ASD who may have varying sensory needs and learning preferences.

In terms of engagement, teachers can incorporate activities that allow students to engage with the material in ways that feel comfortable for them. For instance, students with ASD might be more engaged through visual aids, hands-on activities, or small-group discussions rather than large group lectures. The key is to provide multiple ways for students

to interact with the content, ensuring that those who may struggle with one form of engagement can still participate meaningfully. Teachers can also build in frequent check-ins or feedback sessions to maintain student engagement and gauge understanding.

For expression, UDL emphasizes providing students with various options to demonstrate their knowledge and skills. Teachers can allow students to present their understanding through different mediums such as oral presentations, written reports, visual projects, or even digital media, depending on what works best for them. This flexibility helps accommodate individual differences in communication styles and abilities, ensuring that every student, including those with ASD, has an equitable opportunity to express their learning. Even with limited resources, teachers can focus on these flexible, adaptable strategies to create a more inclusive and effective learning environment.

One of the main challenges in developing assessment rubrics for children with ASD is defining non-verbal communication in measurable indicators, as each child exhibits different communication patterns. To address this, more specific indicators are needed, such as using observation scales to classify various forms of non-verbal communication in detail. Additionally, flexibility in assessment is important but must be balanced with the need for standardization. A flexible yet clear rubric can accommodate various forms of communication (verbal, non-verbal, and assistive communication tools), ensuring objective and consistent assessment. Another challenge is the lack of teacher training in applying UDL principles, which requires ongoing training to ensure the rubric is used inclusively and adaptively.

On the other hand, each child with ASD has distinctive characteristics and learning styles, so individual adjustments in the assessment rubric are necessary. To this end, the rubric must consider relevant learning aids, such as videos, images, or alternative communication devices. Balancing inclusivity and assessment accuracy is also a challenge, where assessments must remain comprehensive without oversimplifying too many indicators. Furthermore, technology that is accessible and user-friendly can help create a

more inclusive assessment experience, but teachers also need training to effectively utilize technology according to students' needs.

However, speaking skills assessment for children with autism, particularly English speaking, has not been extensively developed in a specific and standardized way, especially in the context of inclusive education in elementary schools and special education schools.

Existing research often focuses on the development of assessment instruments for general language skills, such as (Latifa et al., 2015) which focuses on the development of a practical speaking assessment rubric for English major students in Parepare, Indonesia. The rubric, known as the Practical Rating Rubric of Speaking Test (P2RST), assesses five key aspects of oral communication: grammar, vocabulary, pronunciation, discourse, and strategic competence. This rubric is analytical with a rating scale from 0 to 4, accompanied by clear descriptors. Meanwhile, (Ulker, 2017) analyzes the design practices and use of rubrics in speaking assessments in the EFL environment. He emphasizes the importance of analytical rubrics that assess each component separately and provides recommendations for developing rubrics that can improve objectivity and consistency in assessment. On the other hand, (Phan & Phuong, 2017) explores EFL students' perceptions in Vietnam regarding the use of analytical rubrics for self-assessment. The research shows that students have a positive view of this rubric as it helps them understand the expected speaking performance standards, although some students report difficulty accurately self-assessing.

These three studies demonstrate that analytical rubrics are important tools in speaking assessments because they provide a comprehensive and systematic overview of the assessed aspects, without considering alternative communication forms such as gestures, visual symbols, or other non-verbal expressions commonly used by children with ASD in interactions (Hermawan et al., 2024) (Saputra & Maghfiroh, 2023).

The absence of a systematically designed, differentiated, and inclusive assessment rubric for English speaking skills in children with ASD indicates a research gap and a challenge in inclusive education practice (Humphrey & Symes, 2013).

To address this issue, the development of an adaptive speaking skills assessment rubric that caters to the communication needs of children with ASD is necessary. One relevant and proven effective approach in this context is the Universal Design for Learning (UDL) (Meyer et al., 2014). UDL is a pedagogical framework that emphasizes the importance of providing multiple pathways for delivering information, expressing understanding, and increasing student engagement by accommodating diverse learning styles and needs (P. Coyne et al., 2012).

In assessing English-speaking skills, the UDL approach enables teachers to evaluate the communication performance of children with ASD more fairly and flexibly, considering various forms of communication (both verbal and non-verbal), social context, and adaptive success criteria (M. D. Coyne et al., 2013) (Rao et al., 2014). Several studies show that the implementation of UDL can enhance accessibility and participation for students with special needs in language learning and assessment, as well as help teachers understand students' potential more comprehensively (Chita-Tegmark et al., 2012).

The assessment rubric based on Universal Design for Learning (UDL) is designed to accommodate variations in how students demonstrate their understanding, especially for children with ASD. This rubric considers non-verbal forms of communication such as facial expressions, body movements, and the use of assistive communication tools, in addition to verbal communication. By using clear and measurable criteria for both verbal and non-verbal communication, this rubric helps prevent bias and ensures an objective assessment. Individual adjustments are also possible, allowing the rubric to be tailored to the learning styles and communication methods of each student, providing a fairer and more comprehensive picture of their abilities.

Additionally, this rubric provides constructive feedback focused on student progress, without relying on general norms applied to EFL learners. The use of technology, such as image-based communication tools or speech recognition apps, is also utilized to provide a more objective and fair assessment. With this approach, the UDL-based assessment rubric

ensures that children with ASD are evaluated fairly, considering the specific challenges they face in communication, while clearly differentiating between difficulties caused by ASD and general challenges in language learning.

Universal Design for Learning (UDL)

Universal Design for Learning is an educational approach developed by the Center for Applied Special Technology (Kelly et al., 2022) (Ryder, 2019) that aims to create optimal learning access for all learners (Ryder, 2019) (Novembli et al., 2024). UDL has three main principles: Multiple Means of Representation (presenting material in various ways), Multiple Means of Action and Expression (providing choices for expressing understanding), and Multiple Means of Engagement (offering several ways to motivate and involve students) (Meyer et al., 2014) (Ryder, 2019)

In the context of speaking assessment, the UDL principle allows teachers to adjust the form of assessment so that it does not solely rely on verbal ability but also accommodates non-verbal communication forms commonly used by children with ASD (Rao et al., 2014).

Communication in Children with Autism Spectrum Disorder (ASD)

Children with ASD have specific characteristics in social communication, such as difficulty maintaining eye contact, limitations in expressive language use, and a tendency to use alternative communication forms (gestures, pictures, communication aids) (Bishop et al., 2017), Therefore, the approach to assessing speaking skills must consider these various communication modes to make the assessment fairer and more representative (Trembath et al., 2019).

By combining these two theoretical frameworks, the development of a speaking skills assessment rubric for children with ASD in English language learning becomes more adaptive, humanistic, and based on the real needs of the learners.

The proposed UDL-based assessment rubric for children with ASD aims to strike a balance between accommodating non-verbal communication and promoting verbal language development. One of the potential risks of overcompensating for non-verbal

communication, such as gestures or the use of communication aids, is that it could inadvertently limit opportunities for verbal expression. This risk can be mitigated by designing the assessment rubric to include specific criteria that assess both verbal and non-verbal communication in parallel.

To address this, the UDL-based rubric ensures that verbal communication is still given significant weight in the assessment process. While acknowledging the value of alternative communication modes, the rubric encourages children with ASD to engage in verbal interactions whenever possible by providing different forms of verbal expression—such as structured dialogues, guided conversations, or interactive speaking exercises. At the same time, the rubric allows for flexibility by recognizing that verbal communication may still be a challenge for some children and that non-verbal communication is an important component of their overall language development.

Moreover, by including multiple means of expression and representation, the UDL-based rubric allows for differentiated assessments. This approach fosters a supportive environment where children with ASD can demonstrate their language skills through a variety of methods without feeling restricted to just one form of communication. This balance ensures that children are not solely reliant on non-verbal communication but are encouraged to develop their verbal skills in ways that are both accessible and appropriately challenging for their individual needs. The result is an inclusive and holistic assessment process that promotes the growth of both verbal and non-verbal communication abilities.

RESEARCH METHODS

This study uses a Research and Development (R&D) approach with the main objective of developing an English-Speaking Skills Assessment Rubric suitable for children with autism spectrum disorder (ASD) based on the principles of Universal Design for Learning (UDL). The development model used is a modification of (Borg and Gall, 1983) (Assyauqi, 2020)which

has been widely adapted in the development of alternative assessments in inclusive education settings (Sugiyono, 2013).

The research subjects consist of 20 regular students and 1 student who has been diagnosed with mild ASD in the 7th grade at Sekolah Alam Bekasi. The study was conducted during the second semester of the 2024/2025 academic year at Sekolah Alam Bekasi.

To ensure that the qualitative findings (from observations and interviews) are not biased due to the small sample size and the potentially limited context of the school (Sekolah Alam Bekasi), researchers can employ several strategies. One of these is triangulation, which involves collecting data from various sources such as other schools or stakeholders (teachers, parents, and experts) to cross-check findings and gain a more comprehensive perspective. Additionally, member checking can be performed by sharing the findings with participants to confirm or refine the researchers' interpretations, thereby enhancing the credibility of the findings. Researchers can also use a variety of data collection methods, such as surveys, field notes, and class assessments, to capture different aspects of the issue, enriching the findings. If possible, researchers could expand the sample by including a larger or more diverse group of students from various classes or schools to ensure that the findings are not overly specific to one school. Lastly, reflexivity is also important, where researchers should reflect on their biases and assumptions during the research process to reduce the influence of their personal perspectives on data interpretation. By applying these strategies, researchers can ensure that the findings are more accurate and widely acceptable, even with the limitations of a small sample context.

Given the limited number of students with ASD, this study can rely on a deep qualitative approach to explore the experiences of students with ASD using the assessment rubric. Direct observations, interviews with teachers, and analysis of video or documentation of interactions can provide deeper insights into how students with ASD interact with the rubric and whether it includes the various communication methods required by students with special needs. Although there is only one student with ASD in the sample, comparing

students with ASD to regular students can provide a clearer picture of the communication gaps and how the rubric can accommodate both groups of students. By comparing the assessment results of students with ASD to regular students, this study can demonstrate how the rubric can be flexibly and inclusively applied across different communication contexts.

This study may also recommend applying the rubric in a larger and more diverse context in the future, for example, by involving more students with ASD in the next study or expanding the research to other inclusive schools. The researcher may suggest that the rubric be tested in other schools with a larger number of students with ASD to validate broader findings and claims about its effectiveness and applicability. Additionally, feedback from various stakeholders, such as teachers, inclusive education specialists, and parents of students with ASD, can provide valuable perspectives on the application of this rubric in inclusive settings. By involving different stakeholders, this research can strengthen the claim about the effectiveness of the rubric, even though there is only one student with ASD in the study sample. However, this study must also acknowledge the limitations in generalizing its results, given that there is only one student with ASD in the sample. Therefore, claims about the effectiveness and application of the rubric are more exploratory and need further testing in larger and more diverse samples. The researcher may also suggest that, while these findings provide initial insights, further studies with more students with ASD are needed to draw more definitive conclusions.

The choice of the R&D model is made because this approach allows a systematic process from needs exploration, product design, and expert validation, to field testing (Rahmawati & Ertin, 2014). The main stages carried out in this research include: (1) needs analysis, (2) design of the initial UDL-based rubric, (3) expert validation and revision, (4) rubric testing and revision, (5) final product (Creswell & Creswell, 2018).

This developmental study collects two types of data: qualitative and quantitative. Qualitative data are obtained through observations, interviews, and questionnaires, while quantitative data are obtained through assessments using the rubric. Observations and

interviews are conducted to evaluate the existing assessment instruments and analyze the material needs (Ardiansyah et al., 2023).

The data collection techniques in this study include semi-structured interviews with teachers (Miles et al., 2014), observation of the English-speaking skills of the ASD students during the learning process, expert validation questionnaires to test the feasibility and clarity of the rubric (Creswell, 2012), and documentation in the form of video and audio recordings as authentic evidence of the assessment process (Guba & Lincoln, 1985).

The primary instrument in this study is the speaking skills assessment rubric developed based on the three core UDL principles, namely multiple means of engagement, multiple means of representation, and multiple means of action and expression (CAST, 2018; Rose & Meyer, 2002). The rubric indicators include the ability to greet, answer simple questions, name objects or pictures, express desires, and display non-verbal expressions that support communication. Each indicator uses a 1–4 rating scale, with adaptive and contextual performance descriptions (Moreno et al., 2021; Blackwell et al., 2020).

The data obtained were analyzed using a descriptive-quantitative and interactive-qualitative approach. The expert validation results were analyzed using Aiken's V formula to measure the content validity of the rubric (Aiken, 1985). Meanwhile, the results of the rubric trial were analyzed through practical and limited effectiveness testing by calculating the average student performance scores and descriptive analysis. The qualitative data from observations and interviews were analyzed using data reduction, categorization, and thematic interpretation techniques based on the interactive analysis model.

To ensure the reliability and validity of speaking assessments incorporating diverse communication modes, such as gestures, assistive technology, and non-verbal cues, a standardized rubric should be developed with clear indicators for each mode of communication. This rubric should include detailed descriptors that outline performance expectations for verbal, non-verbal, and assistive technology-based communication. Consistent application of these indicators across different teachers and settings is essential,

ensuring that the same criteria are used to assess all students. In addition, comprehensive training for teachers is crucial. Teachers should be trained to recognize and assess various communication modes, helping them evaluate non-verbal communication effectively while maintaining objectivity.

To further strengthen the reliability of the assessment, inter-rater reliability can be ensured by having multiple teachers assess the same student's performance using the rubric. Comparing the results from different teachers will help identify any inconsistencies, allowing for adjustments in the assessment process to ensure uniformity in its application. Regular calibration meetings between teachers can be conducted to align their understanding of the rubric and address any challenges encountered during the assessment. These meetings will ensure that all educators are on the same page, especially when evaluating alternative communication methods like gestures or assistive technology.

Finally, the collection of authentic evidence, such as video and audio recordings, can enhance the transparency and accuracy of the assessment process. These recordings can be reviewed by multiple evaluators to verify the assessment results and provide a reliable reference for improving the evaluation process. Additionally, ongoing feedback from stakeholders, including students, parents, and specialists, can help refine the rubric and ensure it remains responsive to students' communication needs. Regular reviews of the rubric's effectiveness will allow for continuous improvement, ensuring that the assessment process is comprehensive, fair, and adaptable to diverse communication needs.

RESULTS AND DISCUSSION

Results of Rubric Development

The results of the development of the speaking skills assessment rubric for children with autism were obtained from the initial stages of the research, which included preliminary studies, field observations, and interviews with teachers and experts. In the needs analysis, it was found that children with autism are at a basic level in oral language skills, particularly in functional communication such as greeting, answering simple questions, naming objects,

and expressing needs both verbally and non-verbally (Tager-Flusberg et al., 2005; Lord et al., 2018; Paul et al., 2007).

Furthermore, there was no specific rubric available for assessing English speaking skills, so teachers were using general assessment rubrics, such as the one suggested by Brown. Although this rubric is widely known and used in English language teaching, it does not fully accommodate the specific needs of assessing speaking skills, especially for students in inclusive classrooms who have varying abilities, including children with autism. Therefore, the use of a more standardized rubric tailored to the characteristics of students in inclusive classrooms is essential to ensure a more valid and relevant assessment. This will help provide more accurate feedback and support the development of students' English-speaking skills according to their individual abilities.

Recognizing the importance of adjustments in the assessment rubric, the researcher then developed a rubric based on the principles of Universal Design for Learning (UDL). The UDL principles—multiple means of engagement (encouraging student motivation by offering activity choices), multiple means of representation (using visual, gestural, and verbal modes), and multiple means of action and expression (allowing responses in various forms) (CAST, 2018; Rose & Meyer, 2002; Hall et al., 2012) aim to create learning that is accessible to all students with various needs and learning styles, providing the foundation for designing a more inclusive rubric. By integrating UDL principles, the developed rubric not only addresses the cognitive aspects of speaking but also considers the emotional and social aspects of students, including those with special needs such as children with autism. (Ikawati, 2014)

The speaking skills assessment rubric developed for children with autism is designed to accommodate the diversity in communication methods used by children, whether verbal or non-verbal. This rubric includes assessment indicators that not only evaluate verbal speaking skills but also the ability of children to use non-verbal expressions such as body movements, facial expressions, and alternative communication tools like pictures or voice-

based communication devices. This allows for a more inclusive assessment of various communication forms used by children with autism, which is crucial because they often exhibit a wide range of communication styles. One of the main strengths of this rubric is the flexibility it provides for students to express themselves in various ways. Children with autism who are unable to speak fluently, for example, can be assessed based on their ability to use gestures, facial expressions, or communication through assistive devices. This ensures that the assessment does not solely focus on verbal speaking abilities but also values other ways the children use to communicate.

This rubric also outlines clear and detailed assessment indicators for each aspect of communication, both verbal and non-verbal, providing consistent guidelines for teachers to assess the speaking skills of children with autism, regardless of whether they use words or non-verbal expressions. This helps ensure that all forms of communication are valued and assessed objectively and fairly. The assessment includes aspects such as verbal fluency, clarity of pronunciation, appropriate use of non-verbal expressions, and the ability to communicate information clearly and coherently. Additionally, the rubric allows for adjustments based on the individual needs of students, giving space for children who rely more on non-verbal communication to demonstrate their understanding or speaking skills through facial expressions, body movements, or other communication tools. The assessment remains relevant and fair even with significant differences in how children communicate. The rubric also provides constructive feedback that helps assess the progress and achievements of each child, offering a more comprehensive picture of their speaking skills development and providing valuable feedback for further growth.

The aim is to ensure that all students, without exception, are provided with equal opportunities in the learning and assessment process. Through this approach, the rubric is expected to provide a more fair, relevant, and holistic assessment of students' English-speaking skills, tailored to their individual needs.

The five aspects of English-speaking assessment developed in this rubric include: answering simple questions, naming objects/pictures, greeting, and responding, expressing desires verbally, and using non-verbal expressions to support communication. Each aspect is rated on a scale from 1 to 4, with performance descriptions focusing on the level of independence and clarity of the child's communication (Blackwell et al., 2020; Rose & Gravel, 2010; Cumming & Rodriguez, 2013).

Table 1: Initial UDL-Based English-Speaking Assessment Rubric

No	Aspects Assessed	Score 1 (Very Poor)	Score 2 (Poor)	Score 3 (Fair)	Score 4 (Good)
1	**Answering Simple Questions**	Does not respond or only mimics without understanding	Responds with one word, unclear	Responds with 1-2 contextual words	Responds fully and accurately according to the question
2	**Naming Known Objects/Pictures**	Cannot mention or only points	Mentions with help (gesture/teacher)	Mentions 1-2 items clearly	Mentions ≥3 items clearly and spontaneously
3	**Greeting and Saying Hello**	Does not greet, does not respond to greeting	Greets with gesture/non-verbal	Greets with brief verbal response	Greets with full expression and eye contact
4	**Expressing Desires Verbally**	Pulls hand back/remains silent when wanting something	Uses gestures without words	Expresses with simple phrases	Expresses desires with complete and clear sentences
5	**Using Supporting Non-Verbal Expressions**	late expression or inappropriate for context	Shows expression but not consistent	Expression appropriate for context in most situations	Expression is clear and consistently supports verbal communication

The initial rubric that was developed was then validated by experts to ensure that the assessment aspects align with the needs and characteristics of students, particularly in the context of English-speaking lessons in inclusive classrooms. The validation results showed that for several assessment aspects, such as answering simple questions, naming known objects/pictures, and expressing desires verbally, more specific, and measurable elements needed to be added. One suggestion made by the experts was to incorporate a rubric from Brown, which is more standardized and widely used in English language teaching.

Additionally, the experts recommended that the assessment indicators be adjusted to the lesson topic, in this case, self-introduction. The assessment indicators should include the student's ability to introduce themselves correctly, state personal information such as name, age, origin, and hobbies, and their ability to construct introduction sentences appropriate to the context. The experts also emphasized the importance of including aspects of fluency and clarity of pronunciation in the self-introduction topic, as this would provide a clearer picture of the student's speaking ability.

Furthermore, the experts recommended improving the assessment of non-verbal expression to make it more consistent and better reflect the diversity of ways students communicate, both verbally and non-verbally. With the adjustment of indicators and the addition of new aspects based on the experts' suggestions, this rubric is expected to provide a fairer and more appropriate assessment of students' speaking skills, both for regular students and children with autism in inclusive classrooms.

Table 2: Revised UDL-Based English-Speaking Assessment Rubric

No	Assessed Aspects	Indicators	Score 1 (Very Poor)	Score 2 (Poor)	Score 3 (Fair)	Score 4 (Good)
1	Fluency	Mentioning full name, age, and origin with good fluency without many pauses.	Does not respond or only mimics without understanding	Responds with one word, unclear	Responds with 1-2 contextual words	Responds fully and accurately according to the question
2	Pronunciation	Mentioning personal information such as name, age, origin, and hobbies with clear and easy-to-understand pronunciation.	Unable to mention name, age, or origin	Mentions with help (gesture/teacher)	Mentions 1-2 pieces of personal information clearly	Mentions ≥3 pieces of personal information clearly and spontaneously
3	Accuracy	Mentioning basic information accurately, such as name, age, origin, and hobbies without significant errors.	Does not mention hobbies or interests	Mentions with help (gesture/teacher)	Mentions 1-2 hobbies or interests clearly	Mentions ≥3 hobbies or interests clearly and spontaneously

No	Assessed Aspects	Indicators	Score 1 (Very Poor)	Score 2 (Poor)	Score 3 (Fair)	Score 4 (Good)
4	Clarity	Mentioning basic information accurately, such as name, age, origin, and hobbies without significant errors	Does not greet, does not respond to greeting	Greets with gesture/non-verbal	Greets with brief verbal response	Greets with full expression and eye contact
5	Performance Skill	Able to explain oneself clearly and in an organized manner, without confusion in delivering the message.	Pulls hands back/remains silent when wanting something	Uses gestures without words	Expresses with simple phrases	Expresses desires with complete and clear sentences
6	**Using Supporting Non-Verbal Expressions**	Uses complete and context-appropriate sentences to introduce oneself (e.g., "My name is [Name], I am [Age] years old, I am from [Origin], my hobby is [Hobby]").	Flat expression or inappropriate for context	Shows expression but not consistent	Expression appropriate for context in most situations	Expression is clear and consistently supports verbal communication

Results of Validation and Rubric Trial

The developed rubric has been validated by three experts in the fields of special education, language assessment, and inclusive pedagogy. The validation results showed that all indicators in the rubric meet the content validity criteria, with Aiken's V values ranging from 0.85 to 0.95, indicating high content validity (Azwar, 2015) (Ayabe, 1985). A limited trial was conducted with 1 student with ASD, and the results showed that the rubric was able to distinguish individual English speaking abilities and assist the teacher in providing adaptive and responsive interventions based on the student's needs (Topping & Ehly, 1998) (Richards, 2009) (Rao & Meo, 2016; Spooner et al., 2007; Topping & Ehly, 2001). Additionally, the rubric was considered practical to use in the classroom and helped in decision-making for teaching (Brookhart, 2013).

Discussion

This assessment rubric is relevant to the needs of learning in inclusive classrooms because it considers the communication characteristics of students with ASD, who often face

difficulties in social interaction and verbal expression (American Psychiatric Association., 2013) (Milton & Ryan, 2022). By applying the UDL approach, teachers can assess more than just verbal abilities, but also alternative expressions such as gestures, symbols, and eye contact, making the assessment more holistic and fairer. This study supports the findings of (Cooper et al., 2023) which state that the use of a response-flexible rubric increases assessment accuracy for students with ASD. This rubric also supports the implementation of individualized education programs (IEPs) by allowing assessments based on the strengths and unique communication strategies of each student (Dettmer et al., 2000). Furthermore, the success of using this rubric is reinforced by the evidence-based practice approach in special education, as suggested by (Odom et al., 2010) (Wong et al., 2015), which asserts that adaptive assessments tailored to a child's learning profile improve student engagement and verbal responses.

CONCLUSION

Based on the results of the validation and rubric trial, it can be concluded that the developed assessment rubric has high content validity, with Aiken's V values ranging from 0.85 to 0.95, indicating the suitability of the indicators used in the rubric. The limited trial with students with ASD also showed that this rubric is effective in distinguishing individual English-speaking abilities and can assist teachers in providing adaptive interventions according to each student's needs.

This indicates that the rubric has excellent accuracy in measuring the speaking skills of children with ASD, both verbally and non-verbally, in line with the intended objectives. With its high validity, this rubric can serve as an effective assessment tool to be used in various educational contexts. To ensure that this rubric can be applied widely, the next step is to standardize and scale its use across different schools and educational contexts, both in Indonesia and internationally. This will be done through curriculum adaptation and the development of clear implementation guidelines, as well as training for teachers to ensure

consistent and fair application in every school. Additionally, collaboration with international educational institutions will help ensure that this rubric can be aligned with global standards, enabling broader and more effective implementation in assessing the speaking skills of children with ASD in various countries.

This rubric has also been proven to be practical for classroom use and supports more accurate decision-making in teaching. By adapting the Universal Design for Learning (UDL) approach, this rubric not only assesses verbal abilities but also evaluates alternative expressions such as gestures, symbols, and eye contact, which are highly relevant to the communication characteristics of students with ASD. This makes the assessment more holistic and fairer.

This rubric is expected to be a useful and relevant assessment tool in the context of inclusive classrooms, particularly for students with ASD, and can improve assessment accuracy while supporting the development of their English-speaking skills.

To ensure the reliability and applicability of the findings from this study, despite the limited sample size of just one student with ASD, researchers can implement several strategies. First, while the study focuses on one individual, the assessment rubric and findings could be validated through replication across multiple students with ASD from different classrooms or schools. By applying the same assessment rubric to a larger, more diverse group of children with varying levels of severity and different communication profiles, researchers can determine if the rubric is universally effective and adaptable. This would help establish broader applicability and reliability in various contexts.

Additionally, triangulation can be used to gather multiple perspectives, combining data from other sources such as teachers, therapists, and parents to ensure the findings are well-rounded and not based on a single viewpoint. By including a wider range of stakeholders in the assessment process, the researchers can increase the robustness of the findings. Furthermore, if the study is expanded to include students from diverse educational settings or with different forms of communication (such as those using assistive technology

or non-verbal cues), it will provide a clearer picture of how well the rubric works across different contexts.

Lastly, longitudinal data collection, where the same student is assessed over an extended period, could provide deeper insights into how the rubric supports the ongoing development of speaking skills in students with ASD. Additionally, peer reviews and expert validation can ensure that the rubric's design and findings meet the standards required for broader application. By implementing these strategies, the study can provide a more comprehensive understanding and strengthen the applicability of its findings to a wider population of students with ASD.

REFERENCES

Afrasiabi, S. (2018). High-Functioning Autism Spectrum Disorder in the English Classroom. *Faculty of Arts and Social Sciences*.

Aiken, L. R. (1985). Three Coefficients for Analyzing the Reliability and Validity of Ratings. *Educational and Psychological Measurement*, *45*(1), 131–142. https://doi.org/10.1177/0013164485451012

American Psychiatric Association. (2013). Diagnostic and Statistical Manual of Mental Disorders (5th ed.). *American Psychiatric Publishing.*

Ardiansyah, Risnita, & Jailani, M. S. (2023). Teknik Pengumpulan Data Dan Instrumen Penelitian Ilmiah Pendidikan Pada Pendekatan Kualitatif dan Kuantitatif. *Jurnal IHSAN : Jurnal Pendidikan Islam*, *1*(2), 1–9. https://doi.org/10.61104/ihsan.v1i2.57

Assyauqi, M. I. (2020). Model Pengembangan Borg and Gall. *Institut Agama Islam Negeri (IAIN) Negeri Egeri*.

Astuti, E. Y., Martina, L. S., & Santoso, Y. B. (2022). Pengembangan Instrumen Asesmen Komunikasi Bagi Anak ASD (Autism Spectrum Disorder). *Journal of Special Education*, *1*(01).

Ayabe, C. R. (1985). Multicrossvalidation and the Jackknife in the Estimation of Shrinkage of the Multiple Coefficient of Correlation. *Educational and Psychological Measurement*, *45*(3), 445–451. https://doi.org/10.1177/001316448504500302

Azwar, S. (2015). *Reliabilitas dan Validitas* (4th ed.). Pustaka Pelajar.

Bishop, D. V. M., Snowling, M. J., Thompson, P. A., Greenhalgh, T., & and the CATALISE-2 consortium. (2017). Phase 2 of CATALISE: A multinational and multidisciplinary Delphi consensus study of problems with language development: Terminology. *Journal of Child Psychology and Psychiatry*, *58*(10), 1068–1080. https://doi.org/10.1111/jcpp.12721

Black, P., & Wiliam, D. (1998). Assessment and Classroom Learning. *Assessment in Education: Principles, Policy & Practice*, *5*(1), 7–74. https://doi.org/10.1080/0969595980050102

Borg and Gall. (1983). *Educational Research, An Introduction*. Long,amInc.

Brignell, A., Chenausky, K. V., Song, H., Zhu, J., Suo, C., & Morgan, A. T. (2018). Communication interventions for autism spectrum disorder in minimally verbal children. *Cochrane Database of Systematic Reviews*, *2018*(11). https://doi.org/10.1002/14651858.CD012324.pub2

Chita-Tegmark, M., Gravel, J. W., Maria De Lourdes, B. S., Domings, Y., & Rose, D. H. (2012). Using the Universal Design for Learning Framework to Support Culturally Diverse Learners. *Journal of Education*, *192*(1), 17–22. https://doi.org/10.1177/002205741219200104

Cooper, K., Russell, A. J., Lei, J., & Smith, L. G. (2023). The impact of a positive autism identity and autistic community solidarity on social anxiety and mental health in autistic young people. *Autism*, *27*(3), 848–857. https://doi.org/10.1177/13623613221118351

Coyne, M. D., Simmons, D. C., Hagan-Burke, S., Simmons, L. E., Kwok, O.-M., Kim, M., Fogarty, M., Oslund, E. L., Taylor, A. B., Capozzoli-Oldham, A., Ware, S., Little, M. E., & Rawlinson,

D. M. (2013). Adjusting Beginning Reading Intervention Based on Student Performance: An Experimental Evaluation. *Exceptional Children*, *80*(1), 25–44. https://doi.org/10.1177/001440291308000101

Coyne, P., Pisha, B., Dalton, B., Zeph, L. A., & Smith, N. C. (2012). Literacy by Design: A Universal Design for Learning Approach for Students With Significant Intellectual Disabilities. *Remedial and Special Education*, *33*(3), 162–172. https://doi.org/10.1177/0741932510381651

Creswell, J. W., & Creswell, J. D. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. *London. Sage Publication*.

Dettmer, S., Simpson, R. L., Myles, B. S., & Ganz, J. B. (2000). The Use of Visual Supports to Facilitate Transitions of Students with Autism. *Focus on Autism and Other Developmental Disabilities*, *15*(3), 163–169. https://doi.org/10.1177/108835760001500307

Gilhuber, C. S., Raulston, T. J., & Galley, K. (2023). Language and communication skills in multilingual children on the autism spectrum: A systematic review. *Autism*, *27*(6), 1516–1531. https://doi.org/10.1177/13623613221147780

Hermawan, A. F., Sari, W. S. M., Pulungan, S. A. N., Homdijah, O. S., Akhlan, R. N. R., Maulina, E., & Rohani, R. S. (2024). Pengembangan Sistem Komunikasi Alternatif dan Augmentatif pada Aplikasi â€œE-Comm (Electronic Communication)â€. *EDUKATIF : JURNAL ILMU PENDIDIKAN*, *6*(5), 5613–5621. https://doi.org/10.31004/edukatif.v6i5.6999

Humphrey, N., & Symes, W. (2013). Inclusive education for pupils with autistic spectrum disorders in secondary mainstream schools: Teacher attitudes, experience and knowledge. *International Journal of Inclusive Education*, *17*(1), 32–46. https://doi.org/10.1080/13603116.2011.580462

Ikawati, E. (2014). Aplikasi Psikolinguistik Membaca Dan Pengajaran Bahasa. *Forum Pedagogik*.

Kelly, O., Buckley, K., Lieberman, L. J., & Arndt, K. (2022). Universal Design for Learning—A framework for inclusion in Outdoor Learning. *Journal of Outdoor and Environmental Education*, *25*(1), 75–89. https://doi.org/10.1007/s42322-022-00096-z

Kompas. (2023). Psikolinguistik: Pengertian dan Bidang Kajiannya. In *Psikolinguistik: Pengertian dan Bidang Kajiannya*. Kompas.com https://www.kompas.com/skola/read/2023/06/12/100000969/psikolinguistik--pengertian-dan-bidang-kajiannya

Latifa, A., Rahman, A., Hamra, A., Jabu, B., & Nur, R. (2015). Developing a Practical Rating Rubric of SpeakingTest for University Students of English in Parepare, Indonesia. *English Language Teaching*, *8*(6), p166. https://doi.org/10.5539/elt.v8n6p166

Leblanc, L. A., Losowski-Sullivan, S., & Riley, A. R. (2010). Review of Schreibman's: *The Science and Fiction of Autism*. *Journal of Applied Behavior Analysis*, *43*(3), 559–563. https://doi.org/10.1901/jaba.2010.43-559

Lisnawati, I. (2008). Model Inklusi dalam Pembelajaran Pendidikan Jasmani Studi Eksperimen di Sekolah Menengah Pertama Negeri 8 Tasikmalaya Oleh: Cucu Hidayat *Educare. Jurnal Pendidikan dan Budaya*.

Litton, F. W., Rotatori, A. R., Coombs-Richardson, R., & Martinez, R. (2017). Preparation for Teachers for Students with Autism Spectrum Disorders: A Call for Quality and Quantity. *American Journal of Educational Research, 2017, Vol. 5, No. 2, 225-230*.

Meyer, A., Rose, D. H., & Gordon, D. (2014). *Universal Design for Learning: Theory and Practice*. CAST Professional Publishing.

Milton, D., & Ryan, S. (2022). *The Routledge International Handbook of Critical Autism Studies* (1st ed.). Routledge. https://doi.org/10.4324/9781003056577

Mody, M., MGH/HST Athinoula A. Martinos Center for Biomedical Imaging, Harvard Medical School, Department of Radiology, Charlestown, MA, Belliveau, J. W., & MGH/HST Athinoula A. Martinos Center for Biomedical Imaging, Harvard Medical School, Department of Radiology, Charlestown, MA. (2012). Speech and Language

Impairments in Autism: Insights from Behavior and Neuroimaging. *American Chinese Journal of Medicine and Science*, *5*(3), 157. https://doi.org/10.7156/v5i3p157

Moore, S. L. (2007). David H. Rose, Anne Meyer, Teaching Every Student in the Digital Age: Universal Design for Learning: Association for Supervision and Curriculum Development, 1703 N. Beauregard St., Alexandria, VA 22311-1714, Product no. 101042, $22.95 ASCD members, $26.95 nonmembers, ISBN-0-87120-599-8. *Educational Technology Research and Development*, *55*(5), 521–525. https://doi.org/10.1007/s11423-007-9056-3

Novembli, M. S., Hasanah, N., & Fitriani, D. (2024). Investigating the Impact of Universal Design for Learning: Empowering Students with Disabilities in Higher Education. *E3S Web of Conferences*, *593*, 04004. https://doi.org/10.1051/e3sconf/202459304004

Odom, S. L., Collet-Klingenberg, L., Rogers, S. J., & Hatton, D. D. (2010). Evidence-Based Practices in Interventions for Children and Youth with Autism Spectrum Disorders. *Preventing School Failure: Alternative Education for Children and Youth*, *54*(4), 275–282. https://doi.org/10.1080/10459881003785506

P.A, R., & D.C, B. (2009). Social Skills and Social Anxiety in Children with Autism Spectrum Disorder. *Journal of Clinical Child and Adolescent Psychology*, *38*(2), 307–319.

Paul, R., & Fahim, D. (2014). Assessing Communication in Autism Spectrum Disorders. In F. R. Volkmar, R. Paul, S. J. Rogers, & K. A. Pelphrey, *Handbook of Autism and Pervasive Developmental Disorders, Fourth Edition* (1st ed.). Wiley. https://doi.org/10.1002/9781118911389.hautc27

Phan, T. X., & Phuong, H. Y. (2017). Using Analytic Rubric for Speaking Self-Assessment: EFL Students' Perceptions and Challenges. *IOSR Journal of Research & Method in Education (IOSRJRME)*, *07*(03), 34–39. https://doi.org/10.9790/7388-0703043439

Polok, K., & Sadlik, M. (2022). Teaching the skill of speaking to an autistic learner: A case study. *Językoznawstwo*, *1/16*, 167–178. https://doi.org/10.25312/2391-5137.16/2022_11mskp

Rahmawati, Y., & Ertin, E. (2014). Developing Assessment for Speaking. *IJEE (Indonesian Journal of English Education)*, *1*(2), 199–210. https://doi.org/10.15408/ijee.v1i2.1345

Rao, K., Ok, M. W., & Bryant, B. R. (2014). A Review of Research on Universal Design Educational Models. *Remedial and Special Education*, *35*(3), 153–166. https://doi.org/10.1177/0741932513518980

Richards, J. C. (2009). *Teaching Listening and Speaking: From Theory to Practice*.

Ryder, D. (2019). How UDL can make learning work for all your students. *Learning Connections 2019: Spaces, People, Practice*, 103–106. https://doi.org/10.33178/LC2019.21

Saputra, D., & Maghfiroh, A. (2023). *Cara Komunikasi Nonverbal pada Anak Autis di Sekolah Luar Biasa (SLB) Negeri Kabupaten Tanjung Jabung Timur Provinsi Jambi*.

Saputri, T., Basuki, E. P., Lutfauziah, A., Fitriyah, F. K., & Asna, A. (2024). *The Teachers' Perception On Teaching English Strategies To Autism Spectrum Disorder Students*. *5*.

Stefani, D. M. (2024). Wamenkes Ungkap 2,4 Juta Anak di Indonesia Idap Autisme. *Detik Health*. https://health.detik.com/berita-detikhealth/d-7336606/wamenkes-ungkap-2-4-juta-anak-di-indonesia-idap-autisme

Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Alfabeta.

Tager-Flusberg, H., Walenski, M., & Ullman, M. (2006). Language in Autism. In S. Moldin & J. Rubenstein (Eds.), *Understanding Autism* (pp. 175–203). CRC Press. https://doi.org/10.1201/9781420004205.ch9

Topping, K., & Ehly, S. (Eds.). (1998). *Peer-assisted Learning* (0 ed.). Routledge. https://doi.org/10.4324/9781410603678

Trembath, D., Paynter, J., Sutherland, R., & Tager-Flusberg, H. (2019). Assessing Communication in Children with Autism Spectrum Disorder Who Are Minimally Verbal. *Current Developmental Disorders Reports*, *6*(3), 103–110. https://doi.org/10.1007/s40474-019-00171-z

Ulker, V. (2017). *The Design and Use of Speaking Assessment Rubrics*.

Umaini, R. (2025). Diajukan untuk Melengkapi Tugas-Tugas dan Memenuhi Syarat-Syarat Guna Mendapatkan Gelar Sarjana Pendidikan (S.Pd) dalam Fakultas Tarbiyah dan Keguruan. *Universitas Negeri Islam Raden Inten Lampung*.

UNESCO. (2005). *Guidelines for Inclusion: Ensuring Access to Education for All*.

Volkmar, F. R. (Ed.). (2019). *Autism and Pervasive Developmental Disorders* (3rd ed.). Cambridge University Press. https://doi.org/10.1017/9781108297769

Wikipedia, B. I. (2023). Psikolinguistik. In *Psikolinguistik—Wikipedia bahasa Indonesia, ensiklopedia bebas*. wikipedia. https://id.wikipedia.org/wiki/Psikolinguistik

Wong, C., Odom, S. L., Hume, K. A., Cox, A. W., Fettig, A., Kucharczyk, S., Brock, M. E., Plavnick, J. B., Fleury, V. P., & Schultz, T. R. (2015). Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder: A Comprehensive Review. *Journal of Autism and Developmental Disorders*, *45*(7), 1951–1966. https://doi.org/10.1007/s10803-014-2351-z