Extent of Assessment Strategies and Critical Thinking Ability Among Learners in Special Needs Education

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ABSTRACT

This study aimed to examine the relationship between the extent of assessment strategies and the level of critical thinking ability of Special Needs Education (SNED) learners in three public elementary schools in Bukidnon: Halapitan Central Elementary School, Kalagangan Central Elementary School, and Valencia City Central School, School Year 2025-2026. The study employed a descriptive-correlational research design. The respondents consisted of SNED teachers and SNED learners selected through total population sampling. Data were gathered using the Assessment Strategies Questionnaire and the Critical Thinking Questionnaire (CThQ). The data were analyzed using mean, standard deviation, and Pearson's Product-Moment Correlation Coefficient at a 0.05 level of significance. The findings revealed that formative, criterion-directed, and self-assessment strategies were implemented to a very great extent. At the same time, continuous assessment was practiced to a great extent, while summative assessment was practiced to a low extent. In terms of critical thinking ability, learners demonstrated very high performance in applying, high levels in understanding and evaluating, and moderate levels in creating and analyzing. The study concluded with a correlation analysis that indicated a moderate positive relationship between assessment strategies and critical thinking ability; however, the relationship was not statistically significant at the 0.05 level. Thus, the null hypothesis stating that there is no significant relationship between assessment strategies and critical thinking ability was accepted.

Keywords: Assessment Strategies, Critical Thinking, Special Needs Education, Inclusive Education, SNED Learners

INTRODUCTION

Assessment is a significant component of learning and teaching, particularly in Special Needs Education (SNED). It helps teachers understand how learners learn, what they have learned, and how they need assistance. Assessment is common in most classrooms where it is used to evaluate learning outcomes and to inform teaching decisions. Assessment can also be used to build learners' thinking skills, such as critical thinking, when used appropriately, enabling students to process information, solve problems, and make effective decisions. Nonetheless, a large number of learners with special needs are being evaluated using traditional paper-and-pencil tests, which primarily focus on memorization and rote recall. Students with special needs, like learning disabilities, autism spectrum disorder, ADHD, and visual or hearing impairments, tend to learn and share what they know differently. As a result, traditional assessments may fail to reflect their actual performance, strengths, and progress. This can prevent their higher-order thinking skills (especially critical thinking) from developing fully. To overcome this issue, teachers should employ adaptive and inclusive assessment measures. These approaches involve observation, checklists, anecdotal records, teacher-created rubrics, and performance-based tasks that would enable learners to prove learning in various forms (Avdiu & Ahmedi, 2024).

The Organization for Economic Co-operation and Development (OECD, 2015) argues that assessment must not only test learning outcomes but also provide feedback, inform instruction, and address the needs of learners in their diversity. Assessment as a tool of learning promotes the acquisition of critical and creative thinking. Although numerous studies have examined the necessity of inclusive and adaptive assessment strategies,

research on their impact on the development of critical thinking skills among SNED learners remains limited. The majority of current studies are conducted in general education, or they assess academic achievement rather than higher-order thinking skills, such as analyzing, assessing, and creating. Consequently, there is a lack of evidence regarding the role of assessment practices in facilitating the development of critical thinking skills among learners with special needs.

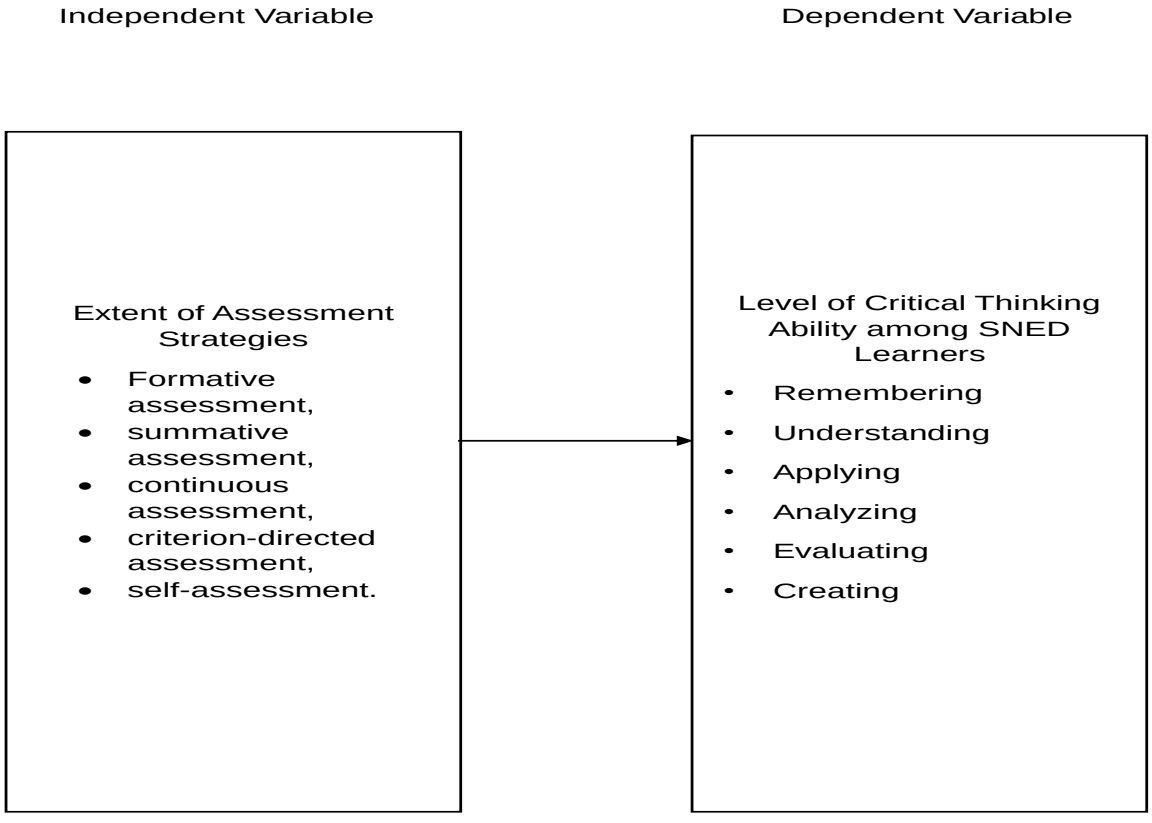
Research papers on assessment strategies used in Special Needs Education are extremely scarce in the local context, especially in Bukidnon. Some schools have inclusive and special-needs education programs, such as Halapitan Central Elementary School, Valencia City Central School, and Kalagangan Central Elementary School. The question of whether the current assessment methods used in schools are effective in developing critical thinking skills in SNED learners, however, remains unclear.

To address this gap, this research investigated the extent to which SNED teachers employ assessment strategies and how these strategies relate to SNED learners' critical thinking ability. In line with inclusive and adaptive assessment practices, this research seeks to provide findings on how assessment can support the development of higher-order thinking skills and measure learning. The research results in this study can be used by teachers, school administrators, and policymakers to enhance assessment practices and better support learners with special needs.

The research relies on two key theories of learning: Bloom's Taxonomy of Educational Objectives and Vygotsky's Sociocultural Theory of Learning. These theories are useful for explaining how assessment practices can cultivate critical thinking skills among learners in Special Needs Education (SNED).

Assessment strategies such as formative, summative, continuous, criterion-directed, and self-assessment are considered independent variables that may influence the development of learners' critical thinking skills. The critical thinking ability of SNED learners is measured across six cognitive domains: remembering, understanding, applying, analyzing, evaluating, and creating. The conceptual framework of the study is presented in Figure 1.

Figure 1. Schematic Diagram of the Study



Generally, this study aimed to determine the extent to which teachers' assessment strategies affect learners' critical thinking abilities in Special Needs Education (SNED).

Specifically, it sought to answer the following questions:

1. What is the extent of assessment strategies in terms of Formative assessment, summative assessment, continuous assessment, criterion-directed assessment, and self-assessment?
2. What is the level of critical thinking ability of the learners in terms of analyzing, evaluating, creating, remembering, understanding, and applying?
3. Is there a significant relationship between the extent of assessment strategies in terms of Formative assessment, summative assessment, continuous assessment, criterion-directed assessment, and self-assessment, and the level of critical thinking ability of the learners in terms of analyzing, evaluating, creating, remembering, understanding, and applying?

Hypothesis of the Study

The hypothesis was tested at a 0.05 level of significance.

Ho: There is no significant relationship between the extent of assessment strategies in terms of Formative assessment, summative assessment, continuous assessment, criterion-directed assessment, and self-assessment, and the level of critical thinking ability of the learners in terms of analyzing, evaluating, creating, remembering, understanding, and applying

METHODS

Research Design

This study employed a descriptive–correlational research design to examine the relationship between the extent of assessment strategies used by Special Needs Education (SNED) teachers and the level of critical thinking ability among SNED learners. The design enabled the researcher to describe current assessment practices and to determine whether these practices were significantly associated with learners' critical thinking abilities.

Research Locale

The study was conducted in three elementary schools in Bukidnon that implement Special Needs Education (SNED) programs: Halapitan Central Elementary School, Kalagangan Central Elementary School, and Valencia City Central School. Halapitan Central Elementary School and Kalagangan Central Elementary School are located in San Fernando, Bukidnon, serving learners from rural and geographically isolated communities. Both schools provide SNED services to support learners with diverse exceptionalities despite limited instructional resources and facilities. Valencia City Central School, located in Valencia City, Bukidnon, is one of the largest elementary schools in the division and accommodates a larger population of learners, including those enrolled in the SNED program. These schools were selected because they actively implement SNED programs and provide inclusive education for learners with special needs.

Respondents of the Study

The respondents consisted of SNED teachers and learners from the three participating schools. A total of 94 SNED learners participated in the study, distributed as follows: 29 from Halapitan Central Elementary School, 9 from Kalagangan Central Elementary School, and 56 from Valencia City Central School. The learners included those diagnosed with attention deficit hyperactivity disorder (ADHD), Down syndrome, learning disabilities, and visual impairments.

Learners with hearing impairments were excluded to maintain consistency in the learning conditions and instructional approaches considered in the study. In addition, 11 SNED teachers participated as respondents: two from Halapitan Central Elementary School, one from Kalagangan Central Elementary School, and eight from Valencia City Central School.

Sampling Procedure

The study employed purposive sampling using total population sampling. All SNED teachers and eligible SNED learners from the selected schools were included in the study because the population size was manageable and relevant to the research objectives.

Research Instrument

Two research instruments were used in the study.

The first instrument was the Assessment Strategies Questionnaire, adapted from Nagowah and Nagowah (2009). This questionnaire measured the extent to which teachers implemented various assessment strategies in the classroom, including formative, summative, continuous, criterion-directed, and self-assessment.

The second instrument was the Critical Thinking Questionnaire (CThQ) developed by Kobylarek et al. (2022). This instrument measured learners' critical thinking abilities across six cognitive domains: remembering, understanding, applying, analyzing, evaluating, and creating.

Both instruments were reviewed by experts in Special Needs Education and educational measurement to ensure content validity and appropriateness for the target respondents. Revisions were made based on expert feedback to improve clarity and suitability for SNED learners.

To establish the reliability of the instruments, a pilot test was conducted with respondents not included in the final sample. Internal consistency reliability was measured using Cronbach's alpha coefficient. The Assessment Strategies Questionnaire obtained a Cronbach's alpha value of 0.86, while the Critical Thinking Questionnaire yielded a reliability coefficient of 0.88, indicating acceptable reliability for educational research instruments. Reliability coefficients above 0.70 are generally considered satisfactory for ensuring consistent measurement of research variables.

Data Gathering Procedure

Prior to data collection, permission was obtained from the Schools Division Office of Bukidnon and from the principals of the participating schools. After approval was granted, the researcher coordinated with the school administrators and SNED teachers regarding the administration of the instruments. The Assessment Strategies Questionnaire was administered to SNED teachers to determine the extent to which assessment practices were used in their classes. Meanwhile, the Critical Thinking Questionnaire (CThQ) was administered to SNED learners, with assistance from their teachers to ensure the questions were clearly explained and understood. The completed questionnaires were collected, coded, and organized for statistical analysis.

Scoring Procedure

The instruments used a five-point Likert scale to score responses.

For the Assessment Strategies Questionnaire, the scale ranged from 1 (Never) to 5 (Always), indicating the extent to which teachers implemented specific assessment strategies.

For the Critical Thinking Questionnaire, the scale ranged from 1 (Strongly Disagree) to 5 (Strongly Agree), indicating the level of learners' critical thinking abilities.

Statistical Treatment of Data

Descriptive and inferential statistics were used to analyze the data. The mean and standard deviation were computed to assess the extent of use of assessment strategies and the level of critical thinking ability among SNED learners. To determine the relationship between assessment strategies and critical thinking ability, the Pearson Product–Moment Correlation Coefficient (r) was used.

RESULTS AND DISCUSSION

This section presents the analysis and interpretation of the data obtained in the study. The findings indicate the extent to which assessment strategies are embraced by Special Needs Education (SNED) teachers and the level of critical thinking capacity among SNED students. The significance of the relationships between assessment strategies and critical thinking domains was determined using means, standard deviations, and Pearson correlation coefficients.

Extent of Assessment Strategies Used by SNED Teachers

Table 1 presents the extent to which SNED teachers use assessment strategies, including formative, summative, continuous, criterion-directed, and self-assessment.

Table 1. Extent of Assessment Strategies Used by SNED Teachers

Assessment Strategy	Mean	SD	Interpretation
Formative Assessment	4.58	0.08	Very High Extent
Summative Assessment	2.36	1.48	Low Extent
Continuous Assessment	3.67	1.67	High Extent
Criterion-directed Assessment	4.73	0.16	Very High Extent
Self-assessment	4.66	0.26	Very High Extent

Table 1 presents the extent to which SNED teachers implement assessment strategies, including formative, summative, continuous, criterion-directed, and self-assessment. The results indicate that criterion-directed assessment had the highest mean (M = 4.73, SD = 0.16), which was interpreted as Very High Extent. This finding suggests that teachers frequently utilize clear performance standards, rubrics, and explicit evaluation criteria when assessing learners' work. Establishing clear learning targets enables learners to understand expectations and guides them toward achieving desired learning outcomes. According to Brookhart (2020) and Wiliam (2021), criterion-referenced assessment supports transparency in evaluation and helps learners focus on the quality of their performance.

Similarly, self-assessment (M = 4.66, SD = 0.26) and formative assessment (M = 4.58, SD = 0.08) were interpreted as Very High Extent, indicating that teachers consistently encourage learners to reflect on their progress and receive continuous feedback throughout the learning process. Self-assessment practices allow learners to monitor their understanding, recognize their strengths and weaknesses, and regulate their learning strategies. Andrade (2020) and Panadero et al. (2021) emphasized that reflective assessment practices strengthen metacognitive awareness and support the development of higher-order thinking skills.

These findings can be explained through Vygotsky's Sociocultural Theory, which emphasizes the importance of guided learning and social interaction in cognitive development. According to Vygotsky (1978), learners develop knowledge and skills through scaffolding provided by more knowledgeable individuals, such as teachers. In SNED classrooms, formative feedback and structured evaluation criteria serve as instructional scaffolding that guides learners toward improved performance. Through continuous guidance and feedback, teachers help learners gradually develop a deeper understanding and independent learning skills.

Continuous assessment (M = 3.67, SD = 1.67) was interpreted as High Extent, indicating that teachers regularly monitor learners' progress through classroom observation, participation, and feedback. Continuous assessment enables teachers to identify learning gaps and provide timely instructional support. Agu (2020) noted that continuous assessment offers a more comprehensive view of learners' development because it evaluates progress over time rather than relying solely on isolated testing events.

However, summative assessment obtained the lowest mean (M = 2.36, SD = 1.48) and was interpreted as Low Extent. This result suggests that SNED teachers rely less on traditional forms of summative evaluation, such as final examinations or cumulative tests. Instead, teachers appear to prioritize more flexible and inclusive assessment approaches that are better suited to learners with special educational needs. Kingston and Nash

(2021) emphasized that summative assessment practices should be adapted to accommodate diverse learner abilities and instructional contexts. Overall, the findings indicate that SNED teachers emphasize formative, criterion-based, and reflective assessment strategies that support continuous learning rather than relying heavily on traditional summative evaluation methods.

Level of Critical Thinking Ability among SNED Learners

Table 2 presents the level of critical thinking ability among SNED learners across the domains of analyzing, evaluating, creating, remembering, understanding, and applying.

Table 2. Level of Critical Thinking Ability among SNED Learners

Critical Thinking Domain	Mean	SD	Interpretation
Analyzing	3.27	1.32	Moderate Level
Evaluating	3.95	0.33	High Level
Creating	4.05	0.48	High Level
Remembering	3.11	0.91	Moderate Level
Understanding	3.77	0.63	High Level
Applying	4.42	0.24	Very High Level

Table 2 presents the level of critical thinking ability among SNED learners across the domains of analyzing, evaluating, creating, remembering, understanding, and applying. The results reveal that applying obtained the highest mean (M = 4.42, SD = 0.24), which is interpreted as a Very High Level.

This indicates that learners demonstrate a strong ability to apply acquired knowledge in practical contexts and to use concepts during learning activities. The ability to transfer knowledge to real-life situations reflects functional understanding and meaningful learning. According to Powell et al. (2017) and Fuchs et al. (2018), structured instructional strategies can support learners with special needs in applying learned concepts across various learning contexts.

Similarly, creating (M = 4.05, SD = 0.48) and evaluating (M = 3.95, SD = 0.33) were interpreted as High Level, indicating that learners demonstrate the ability to generate ideas, synthesize information, and assess different perspectives. Basham et al. (2016) emphasized that inclusive instructional approaches such as Universal Design for Learning promote creative thinking and flexible problem-solving among diverse learners. These strategies provide multiple ways for learners to express understanding and demonstrate their cognitive abilities.

The results align with Bloom's Taxonomy of Educational Objectives, which describes a hierarchy of cognitive processes ranging from basic knowledge acquisition to higher-order thinking skills. The strong performance of learners in applying, evaluating, and creating suggests that learners are capable of engaging in higher-order cognitive processes when provided with appropriate instructional support. Bloom's framework highlights that meaningful learning occurs when learners move beyond memorization and engage in activities that require reasoning, evaluation, and creative thinking.

Meanwhile, understanding (M = 3.77, SD = 0.63) was interpreted as High Level, indicating that learners can interpret information, explain concepts, and compare ideas. However, analyzing (M = 3.27, SD = 1.32) and remembering (M = 3.11, SD = 0.91) were interpreted as being at a Moderate Level. These results suggest that some learners may encounter challenges in breaking down complex information and recalling details from instructional materials. Swanson et al. (2016) explained that working memory limitations can affect learners' ability to retain and process information, particularly among students with learning difficulties.

Overall, the findings indicate that SNED learners demonstrate relatively strong performance in higher-order thinking skills such as applying, evaluating, and creating. However, the moderate performance in remembering and analyzing suggests that additional instructional support may be necessary to strengthen foundational cognitive skills that support deeper analytical reasoning.

Relationship between Assessment Strategies and Critical Thinking Ability

Pearson Product–Moment Correlation was used to determine the relationship between assessment strategies and the critical thinking ability of SNED learners.

Table 3. Overall Correlation Analysis between Assessment Strategies and Critical Thinking Ability

Independent Variable	Dependent Variable	r	p-value	Interpretation
Assessment Strategies	Critical Thinking Ability	0.150	.150	Not Significant

The results revealed a weak positive correlation between assessment strategies and overall critical thinking ability ($r = 0.150$, $p = .150$). However, the relationship was not statistically significant, indicating that the overall use of assessment strategies did not significantly predict the overall critical thinking ability of SNED learners.

The results revealed a weak positive correlation between assessment strategies and overall critical thinking ability; however, the relationship was not statistically significant. This finding suggests that while assessment practices may support learners' cognitive development, they may not independently determine the development of critical thinking skills among SNED learners.

The complex learning characteristics of learners with special educational needs may explain the absence of a statistically significant relationship. In SNED contexts, the development of critical thinking is influenced not only by assessment practices but also by instructional strategies, classroom interactions, individualized instruction, and learner motivation. Teachers frequently employ differentiated teaching approaches and scaffolded learning experiences to support learners with diverse cognitive abilities. These instructional supports may play a more direct role in promoting higher-order thinking skills than assessment practices alone.

The findings can also be interpreted through the lens of Bloom's Taxonomy of Educational Objectives, which emphasizes the hierarchical development of cognitive skills from remembering and understanding to higher-order processes such as analyzing, evaluating, and creating. Although assessment strategies may encourage reflection and feedback, the development of higher-order thinking often requires carefully structured learning activities that promote inquiry, reasoning, and problem solving.

Similarly, Vygotsky's Sociocultural Theory highlights the role of social interaction and guided learning in cognitive development. According to Vygotsky (1978), learners develop higher-order thinking skills through interaction with more knowledgeable individuals, such as teachers and peers, within the Zone of Proximal Development. In SNED classrooms, teachers often provide individualized guidance, scaffolding, and collaborative learning opportunities that help learners gradually develop complex thinking abilities. Therefore, the development of critical thinking may depend more strongly on instructional support and classroom interaction than on assessment strategies alone.

Although the overall correlation was not statistically significant, some assessment practices demonstrated meaningful associations with specific cognitive domains. For example, formative assessment and self-assessment were related to learners' ability to apply knowledge, suggesting that reflective feedback and self-monitoring practices may help learners transfer knowledge to practical situations. These findings reinforce the idea that assessment strategies may still play a supportive role in developing particular aspects of critical thinking, even if they do not independently predict overall critical thinking ability.

CONCLUSION

Based on the study's findings, it is concluded that SNED teachers consistently implement structured, learner-centered assessment strategies, particularly formative, criterion-directed, and self-assessment approaches. These strategies emphasize ongoing feedback, reflective learning, and clear performance standards, which are considered essential components of inclusive assessment practices.

The results also indicate that SNED learners demonstrate relatively strong critical thinking abilities in applying, understanding, evaluating, and creating. However, their moderate performance in remembering and analyzing suggests that additional instructional support may be needed to strengthen memory retention and analytical reasoning skills.

Although a positive relationship was observed between assessment strategies and critical thinking ability, the correlation was not statistically significant. This finding suggests that assessment strategies alone may not be sufficient to explain variations in critical thinking ability among SNED learners. Other factors, such as instructional approaches, classroom interaction, individualized learning support, and learner motivation, may play a more influential role in shaping cognitive development in inclusive learning environments.

Overall, the study highlights the importance of implementing responsive and flexible assessment practices in Special Needs Education. Assessment strategies should be integrated with effective instructional practices and supportive learning environments to promote meaningful cognitive development among learners with diverse learning needs.

Limitations of the Study

This study has several limitations that should be considered when interpreting the findings. First, the study was limited to three public elementary schools in Bukidnon, which may restrict the generalizability of the results to other educational settings. Second, the relatively small sample size of SNED learners and teachers may have affected the statistical power of the correlation analysis. Third, SNED learners represent a highly diverse population with varying cognitive abilities, learning needs, and developmental conditions. These differences may have influenced the measurement of critical thinking abilities and the overall results of the study.

Recommendations for Future Research

Future research may expand the scope of the study by including more schools across multiple regions to improve the generalizability of the findings. Researchers may also consider employing mixed-method approaches that incorporate qualitative data, such as interviews, classroom observations, or focus group discussions, to explore teachers' assessment practices in greater depth.

In addition, future studies may investigate other factors that influence the development of critical thinking among learners with special needs, including instructional strategies, classroom interaction, learner motivation, and individualized learning support. Exploring these variables may provide a more comprehensive understanding of how inclusive educational practices support higher-order thinking skills in Special Needs Education contexts.

Ethical Consideration

The study was conducted ethically. Prior to data collection, the Schools Division Office and principals of Halapitan Central Elementary School, Kalagangan Central Elementary School, and Valencia City Central School were consulted. The teachers, parents, and learners were informed and gave their consent, and all participants were made aware of the study's purpose, procedures, and potential benefits.

The study was voluntary, and respondents were informed that they could choose not to participate or withdraw from the study without penalty or adverse consequences. All responses were coded, and to maintain confidentiality, personal identifiers were not used; the available data were stored securely and used only for academic purposes.

Special attention was paid to respecting the peculiar needs of SNED learners. The administration of questionnaires and other research functions was structured to facilitate, not interrupt, normal classroom operations, and to make the learner feel comfortable and supported throughout the implementation. The paper was conducted with the dignity, privacy, and well-being of all participants to the fore as required by the ethical standards of research.

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